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Medical Education in Ireland

by EDWARD T. FREEMAN, M.D.

President, Royal College of Physicians of Ireland

IN post-war years some Irish medical men who are interested in the subject have watched with concern developments in medical education in Great Britain, in the Scandinavian countries and in the United States. Thirty years ago, Irish standards of staffing and financing our medical schools were on a similar scale to those prevailing in Great Britain, though probably even then lower than the British average. At that time the British standards were not equal to the highest ranking American schools (Harvard, Johns Hopkins, etc.) but were better on the average than the lesser known American schools. To-day there is no denying the increasing disparity between the facilities offered (staff, equipment and finance) in our medical schools and in those abroad.

It is timely, therefore, to attempt an evaluation of the position in our schools. To preserve perspective, it will be well to measure our present medical education against our past, and our actual achievement against the demands made on the modern doctor and the difficulties encountered in training men fit to meet those demands. Thus it may be possible to avoid the extremes of an unreasonable defence of our time-honoured methods or of too dispirited a compliance with judgments and standards developed in a different tradition.

1. The Registration Council

The right to practice as a doctor has been protected during the past hundred years with growing care. In 1858 consequent on the first Medical Act, a General Council of Medical Education and Registration drew up its first Register of qualified medical men. It admitted to enrolment all who held a Fellowship in Medicine or Mastership in Surgery of any University in the United Kingdom. To protect its standards, the Council was empowered to look into the studies pursued and the examinations passed by all who aspired to registration ; and moreover, to remove from its Register persons adjudged guilty of conduct infamous in a professional respect. Erasion of one's name from the Register remains to-day the most serious penalty for professional misconduct. In 1886 an Amending Act made the triple qualification in Medicine, Surgery and Midwifery an essential condition for registration.

Ireland has had its own Medical Register since the Medical Practitioners' Act of 1927, but a Schedule to this Act provided for complete reciprocity between the Medical Councils of the two countries. The

British Medical Council has moreover retained the same representation as before of the Irish Universities and Medical Corporations, as well as a direct representative of the general body of practitioners. The Medical Registration Council of Ireland numbers eleven members : the general body of practitioners elects two members ; the government nominate two members ; and the several Colleges of the National University, Dublin University, the College of Physicians, the College of Surgeons and the Apothecaries' Hall each nominate one member.

It is only a few years since the latest Medical Act, passed in England in 1950 and in the Dáil in the following year, endeavoured to safeguard still further the training of the doctor. After qualifying every student must now practice for a year as a resident in a hospital, remaining the while on a Provisional Register, before passing on to the General Register. The Act provided further for the inspection of the Medical Schools in addition to the already existing inspection of examinations. In order to secure uniformity the General Medical Council and the Irish Registration Council have agreed to appoint the same inspectors for all the Medical Schools in Ireland and Great Britain and two of the present group are Irish graduates.

This inspecting body is limited in its powers. The uniformity sought is only that of a common minimum standard, below which no teaching or examining body should be allowed to fall. Were an examination to fall below this standard, it might cease to be a qualifying examination for the Medical Register. But the matter would first have to be referred to the Medical Council, to the examining body itself, and finally to the Minister for Health (or, in Great Britain, to the Privy Council).

Apart from prescribing this minimum, the Council can merely recommend. It can indicate the subjects which should be included in the medical curriculum and the stages at which examinations should be held. Otherwise, the views expressed by the General Medical Council in 1881 largely govern their outlook :

> It would be a mistake to introduce absolute uniformity into medical education. One great merit of the present system, so far as teaching is concerned, lies in the elasticity which is produced by the variety of the number of educating bodies. Being anxious not in any way to diminish the interest which the teaching bodies now take in medical education or to lessen their responsibility in that respect, we desire to leave them as much initiative as possible. In certain matters of general importance, such as the duration of study and the age at which a student should be permitted to practise, common regulations ought, we think, to be laid down, but we wish to record our opinion that nothing should be done to weaken the individuality of the Universities and Corporations, or to check emulation between the teaching institutions of the country.

It is clear, therefore, that each medical school has considerable latitude in its teaching arrangements and in the conduct of its examinations, but it would be subjecting its students to grave risk should it depart either in the letter or spirit from the 'Recommendations' of the Councils.

I have thought it necessary to set out at such length the authority and composition of the Medical Registration Councils, because much misunderstanding exists about their functions. Some people confuse them with Medical Associations; others have described them as trade unions; and in the less responsible Sunday newspapers writers have called them 'Star Chamber' tribunals.

2. Medical Schools in Ireland

At the time of the first Medical Register (1859), there were five bodies whose license would qualify a man for enrolment as a doctor. Of these the most ancient was the College of Physicians. More than two centuries previously, John Stearne had returned from a study of medicine at Oxford and Cambridge to found a Fraternity of Physicians in Dublin. It received a Royal Charter in 1667, and was renamed the College of Physicians, but it was only fifty years later, through the work and the bequest of Sir Patrick Dun,[1] that it became in any degree an active faculty of Medicine in association with the medical school of Trinity College. The University of Dublin was founded at the close of the sixteenth century but did not contain a medical faculty until 1711, when the school of Physics was opened in August of that year.

In Restoration Dublin, the surgeons still associated in a guild with the barbers and ranked far below the more academic physicians. It was only in the eighteenth century, largely through the efforts of two Catholic surgeons qualified in Paris, Sylvester O'Halloran and William Dease, that they were able to shake off their "disreputable" alliance and establish a College of Surgeons in Dublin. It received its Royal Charter in 1784 and by 1810 had occupied its present site in St. Stephen's Green.

[1] Patrick Dun was a Scotsman who had studied at Aberdeen and Oxford. In 1691 he obtained from William and Mary a second Charter for the College of Physicians and became its President. By his will, made in 1711, he bequeathed a sum of money to establish in the City of Dublin a Professorship of Physic, the holder of which should give formal lectures in Medicine. As Lady Dun was still alive and continued to live until 1745, no funds were available and nothing definite came of the bequest. Moreover, as the College of Physicians had been practically a part of Trinity College, the regulations laid down by Dun gave rise to prolonged litigation which was finally disposed of when a decree from the Court of Chancery secured to the College of Physicians the reversion of the estate on the death of Lady Dun. With the money now available, the College founded three Professorships, one of Medicine, one of the Institutes of Medicine and one of Materia Medica and Pharmacy. Their holders were called the King's Professors, from Archbishop William King, who was one of the executors of Sir Patrick Dun's will. Though appointed in the College of Physicians, these professors held their formal and didactic Latin lectures in the only medical school then existing, that of Trinity College. There was no clinical teaching whatever. The Physicians were gentlemen who regarded themselves as scholars and were above such demeaning actions as involved soiling their hands. As these professorships were established in penal times, they were closed to Catholics. This regulation was repealed in 1867.

It acted as an examining and licensing body for the students of several private schools of medicine in the city, such as the Carmichael and the Ledwich, and, after 1856, enabled many students of Newman's Medical School in Cecilia Street to reach the Medical Register by recognizing their lectures and granting them its licence after examination.[2]

The two other bodies whose degree or licence would admit a graduate to registration were the Queen's University with Colleges in Belfast, Cork and Galway, and the Apothecaries' Hall. The latter was founded in 1791 to train practitioners who would bring medical services and drugs to country districts where no physician or surgeon was ever seen. It maintained its own medical school until 1852.

3. The Hospitals

Owing to the disdain of the physicians for any notably practical instruction in medicine, there was a time lag between the establishment of medical schools and the building of clinical hospitals. Jervis Street was opened in 1718, Dr. Steevens' in 1733, Mercer's in 1734, the Meath in 1754, the Richmond in 1773, but it was not until 1808 that the residue of Sir Patrick Dun's estate was set aside to build a hospital that would bear his name and provide a clinic for the King's Professors. The only other hospital built specifically as a clinic was the Royal City of Dublin hospital, which certain professors of the College of Surgeons school founded in Baggot Street in 1832 ; the close link with Surgeons, however, did not long survive. The following years saw the opening of the Adelaide, St Vincent's and the Mater Misercordiae Hospitals, the two latter of which recall the old tradition of care for the sick which was maintained by the monasteries until their suppression by the Tudor monarchs. The three Maternity hospitals, the Rotunda dating from 1745, the Coombe from 1826, and Holles Street from 1896, provide for a very high proportion of Dublin childbirth. The system of domicillary midwifery practised from these institutions gave remarkable training not only to Irish students but also to many from Scotland and England.

Partly by foundation, partly by tradition, and partly by the affiliations of the teaching staff, the hospitals and medical schools have tended to group themselves. Thus, Dun's, Steevens', Baggot Street and the Adelaide attract the students of the Trinity Medical School ; the Mater and Vincent's serve U.C.D., while the Meath, Mercer's and the Richmond have a loose connection with the College of Surgeons. Nevertheless, it has always been a feature of Dublin medical schools that the students are free to attend any clinical hospital if they have paid their fees to

[2] For a full account of Cecilia Street see *Newman and his Medical School*, by William Doolin in *STUDIES* : Summer 1953. Pp. 151–168.

one of them. As an impetus to the clinical teachers to give of their best, this arrangement has undoubtedly advantages. Its drawback, however, is that the popular teacher or the examiner (whether popular teacher or not) may attract too large a class for the comfort of the students or for the proper examination of the patient by them. Many on the outside of the circle hear little and see less.

It is to Robert Graves that the medical schools of Dublin and indeed of the world owe their modern clinical teaching. Returning to Dublin after three years spent in medical travel in London, Edinburgh and on the Continent, Graves was appointed Physician to the Meath Hospital in 1821. In the 1820's and 30's his clinical lectures drew students from all parts of Europe and America and made the Meath Hospital a Mecca. The keynote of his method was the observation of the patient : " From the very commencement the student ought to witness the progress and effects of sickness, and ought to persevere in the daily observation of disease during the whole period of his studies ". This method of teaching was in welcome contrast to the old formal lecture " in a language " said Graves, " which I have called Latin, in compliance with the generally received opinion of its nature ".

Graves' insistence on bedside instruction was carried further in the system of student residence, which originated in Dublin and spread to the other Irish schools. At some period during the last or second-last year of his studies, the Dublin student entered his hospital and lived there for six months, spending three under the eye of a physician, and three under a surgeon. The system was a modification of the apprenticeship of the early surgeons. After he had assisted at operations, given anaesthetics, attended to minor accidents, and risen at night to visit acute cases, the student was equipped to do almost all that a newly qualified doctor could be expected to do. He had transformed his book-knowledge of the fundamentals of medicine by practical experience and and repeated contact with sick people, and after a further six months of post-graduate residence, he was a very useful and practical young doctor. In the maternity hospitals, the students not only attended normal confinements in residence, but went out in pairs to visit and attend to maternity cases in the homes of the district. This gave unusual training in resource and self-reliance, since the students while out on a case, often at dead of night, were for the moment dependent on their own judgment.

4. The Curriculum

The growth in the size and number of Dublin's medical schools has been paralleled by a still more remarkable development in the curriculum of subjects taught in them. The earlier separations between physicians, surgeons and apothecaries, left its mark in the division of subjects. In

the early schools, the only pre-clinical department was that of anatomy, which was usually taught as a side-line by a practising surgeon. D. J. Cunningham, appointed in 1881, was the first full-time anatomist in Dublin. The department of physiology, pharmacy, materia medica and pathology were still later additions. The Cecilia Street school considered its programme complete when it had lectures in physiology, anatomy, surgery, chemistry and medicine. Far more is required of a faculty of medicine to-day.

In order to enter any medical school, the modern student must first pass an examination, usually matriculation, in general education. He must then attend his pre-medical course, and pass an examination in physics, chemistry, botany and zoology. He is then enrolled on the Medical students' register and his five years of medical studies proper lie before him. At their close he must pass the final examination and spend a further year in hospital before he can be entered on the Register.

In considering the curriculum in more detail, I shall deal chiefly with that of U.C.D., with which I am most familiar. The differences to be found in the other medical schools are differences of detail rather than of essentials.

In his first medical year and in the first two terms of his second year the student occupies himself with anatomy (structure of the body), physiology (working of the body), and bio-chemistry (the chemistry of the living body). Physiology, originally a subordinate part of anatomy, is now a subject in its own right, and the newer science of bio-chemistry is constantly growing in volume and importance. At the end of the second Hilary term, the second medical examination qualifies the student for the clinical or hospital studies, which continue through the last three years of the course.

In the second Trinity term instruction is given in the elements of pharmacology (how drugs act), pathology (study of diseased condition), bacteriology (study of bacteria and allied organisms) and pyschology. The student receives at the same time his first lessons in the examination of the sick person, and in appreciating the departure from normal, but most of these instructions deals with standard normal conditions.

The third year sees the fuller development of pathology, and the study of pharmacology and hygiene, including social and preventive medicine. These subjects, which are partly clinical and meaningless when studied away from the patient, are extraordinarily difficult to place in the curriculum. If placed too early, their significance is lost, but it is even worse to put them into the already overcrowded final year. As it is, they form part of the examination at the end of the third medical year. This year has also included formal lectures in surgery and midwifery, and the beginning of the student's clinical course which involves attending hospital every morning for bedside lectures.

The fourth year is devoted to the study of medical jurisprudence (medicine related to the law), toxicology (the study of poisons), and therapeutics (treatment of diseases), and the further study of pathology. The second part of the third medical which examines these subjects is usually taken at the end of the Hilary term. The student has spent some months of the year attending hospital as a clinical clerk and surgical dresser, but there still remains a full programme of clinical and academic work for his fifth and final year. He must attend clinics for venereal diseases and child welfare, post-mortem examinations, special hospitals for children's diseases, infectious fevers, psychiatry, and midwifery (in this last he must reside for two months at one of the maternity hospitals and conduct 20 cases). During the afternoons he must attend academic lectures in medicine, surgery, midwifery and gynaecology, as well as courses in diseases of the eye and of the ear, and in radiology.

Judged by any standards, this programme is plainly over-crowded, especially at the end. Compared with the requirements of fifty years ago the programme has evidently grown out of all proportion to the time allocated to studying it ; and if we compare it with the simple and elementary curriculum of Newman's school, we see that the original few subjects have become complicated and fractioned to an astonishing degree.

One cause of this splintering is the growth of specialities. The matter has become so complex, and the knowledge necessary for a general view so vast that the simple sub-divisions of medicine used in 1854 have inevitably been split and re-split. Each specialist seeks to advance his own subject and to further its differentiation from the main body of our knowledge. This is a natural ambition. But the sequel is that the unfortunate medical student now finds himself faced with a new " subject ", new lectures, and probably a new examination. Worse than this, from his point of view, the complicated technique required for the proper practice of this speciality are, in the short period in which he can study the subject, beyond his acquiring, and his knowledge tends to become increasingly theoretical as he is debarred from its practice.

The subject of anaesthesia, for instance, was a relatively simple one ten years ago, and was learned and practised by every Dublin resident student while he was in hospital. To-day the apparatus has become so complicated and the drugs so precise in their action, but so dangerous in the hands of the unskilled, that it is out of the question to allow their administration except in the hands or under the close supervision of a trained anaesthetist. The benefits to the surgeon and to the patient are beyond description, but the loss to the student is real.

The same is happening all over the medical field. The total of technique is beyond one individual's dexterity, and the total of academic knowledge is beyond any one memory. For many years it was the aim of the Irish medical schools to produce a good general practitioner who

could do anything. This is now no longer possible. The new aim is to turn out a basic doctor, with a knowledge of fundamentals and the training which will enable him to acquire further knowledge and further skills.

Besides the division of subjects through specialization, the medical curriculum has been altered by one important change of emphasis. Anatomy, formerly the basic science of medicine, has been ousted from that position by physiology and biochemistry. It was always important to know how the body worked, but until recent times not much was actually known. The sciences of biochemistry and of organic chemistry have thrown more and more light on it during the last twenty years, and chemistry will in future be the main basic science of which the student will require an ever increasing knowledge.

These developments in the medical curriculum have been attended by one last change, namely the growth in expenses. The early medical schools, the private ones especially, were profit-making establishments. But while fees have been increased comparatively little (the teaching fees in Irish hospitals have been increased once in the last eighty years, and stand to-day almost at the same figure as in 1870), costs have risen enormously. Nowadays no medical school can carry out the current curriculum without heavy endowment. In Ireland all the clinical professors are part-time workers. They practice their profession for their livelihood, but give their academic lectures and carry out examinations—often a tedious and time-consuming business—for an almost nominal honorarium. The professors of pathology are also engaged in private practice. Those teaching the pre-clinical and basic sciences, on the other hand, are full-time workers ; it is no longer possible for the busy surgeon to make of his anatomy lectures and dissection a spare-time calling sometimes more remunerative than his practice.

It is not in the payment of its professional staff, however, that a medical school incurs its main expense. This lies in the provision of laboratories for physiology, pathology and pharmacology, with seating accommodation for perhaps more than a hundred students ; in the provision of costly equipment, e.g. three hundred microscopes at £40 or £50 each.

In Ireland we are sadly deficient in all our schools in both personnel and equipment. We are fully aware of this. By energy and enthusiasm we have hitherto overcome these difficulties, but they are increasing all the time and will finally force us to reorganize our schools. To-day we find that the day of the part-time clinical professor is almost over. At least he is on the way out. Whole-time professors of clinical subjects, permitted by their terms of appointment to carry on limited consulting private practice or else totally debarred from it, are now more usual and are rapidly becoming universal. This means that a whole team or " firm " as it is frequently called, of professor and assistants, runs either an entire

hospital or a unit in a hospital, and that research and teaching are carried out by permanent fully-paid staff. This is much more costly than the part-time system but probably more efficient. A variant of this procedure might be to appoint the professor for a fixed term of years in the way the Master of the midwifery hospitals is appointed in Dublin, with reversion to his practice and his hospital when his non-renewable term ends.

It is frequently said that doctors, not in practice, cannot teach practice and that the whole-time clinical staff, having themselves no experience of it, regard the patient and his illness from quite a different point of view than does the practitioner who sees him first in his own home. That this is not by any means a foolish objection may be shown by the emergence in Great Britain of the suggestion that general practitioners of proved value should take some part in the training of the new doctor.

A still more interesting development is that the newest sub-division " social medicine ", a title which is capable of being interpreted in many ways, has in some of the American universities come to include a home or domestic practice. In these schools the department of social medicine operates like the extern midwifery department that has been so much a feature of the Dublin system for two centuries. A call for help from an indigent household is answered by sending out a student with a simple laboratory collecting equipment, simple examination instruments and a notebook or case sheet. This would be the basic contents of a general practitioner's bag in Ireland. The student returns with his notes and specimens for the laboratory and, after discussion with the instructor in charge of this subject, a decision is made about the future of the patient. It may be a simple case, with the student's capacity granted support in the background, or it may be more difficult and require admission to hospital. If it is a simple case the student continues to look after the patient and follows the illness in its environment and even in the circumstances of its origin. He thus learns to trace illness to its source. He comes to appreciate what can be done without the complicated machinery of his hospital and what in fact must be done by most general practitioners in small communities.

That means, surely, that the wheel has come full circle. The part-time professor of fifty years ago was a highly skilled general practitioner. When medicine became too complicated he was displaced by specialists in different branches and techniques, and now a general practitioner seems needed to integrate the whole. In Ireland we are at the parting of the ways. We have continued without whole-time clinical professors so far. We have not the money to do otherwise, but it is interesting to note that in some of our endeavours to provide a clinical unit in medical

schools, even in the limited conception of Dun's hospital to teach medicine, and Baggot Street as envisaged by the College of Surgeons' staff to teach surgery, we were generations ahead of our time.

Before leaving the curriculum, it might be well to consider how much we can teach a young doctor. He must be taught the groundwork of his profession. He must be taught the methods of examining a patient and the routine that should be observed ; he must be taught how to approach the taking of a history and how to keep the prolix patient to the point. He must be taught the use of all instruments that he may require to use and must be given abundant practice in their actual use. It is not possible to do much more than this. Every clinical problem is a detective story of sorts and the student must of necessity make his own deductions. It is here that judgment plays so important a part and this is of all things the most difficult to impart. Some have it from the beginning ; others fail to acquire it from a lifetime of experience.

Academic lectures by the clinical professors still occupy far too much time in the student's final year. These lectures are a survival of a time when there were few books. They are useful in a limited way and in a very limited number to provide the student with the recent knowledge that has not yet crystallized out and is not yet in the textbooks. In greater number they are a waste of time and a distraction to the student who should spend his last year in hospital as far as possible in contact with patients and occupied in exercising his own mind and perfecting his powers of observation.

The average Irish student has that interest in people and that natural sympathy which makes him a good doctor. Most patients look for someone to whom they can confide their troubles and for this they naturally look to the doctor. It makes little difference whether he is a consultant or senior visiting physician, the house physician or surgeon, or the resident student. It may only be necessary for a student to carry on a simple conversation, to show real interest in the man or woman, as an individual, to let flow a flood of confidences. I have often been struck by the profound knowledge of a patient's background and of his illness shown by my resident students when the house physician and other officers have no inkling at all. This innate sympathy and capacity for inspiring confidence belong to the person and are part of his character. It cannot be taught but it may be fostered by example.

In Ireland the ethical standards in all the schools have been consistently high. The student has rarely had before him any instructor who departed from them. In recent years in which purely materialistic standards have in too many places ousted the older traditions, this has been a great source of strength.

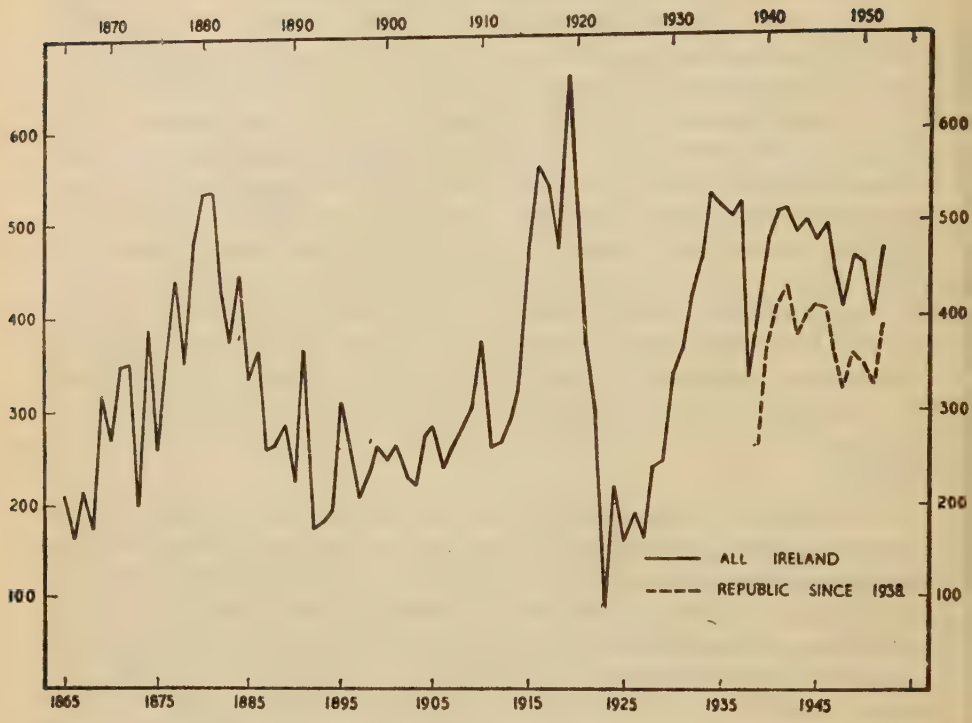
5. The Students

While his medical school and hospital and curriculum have all been changing what of the student himself? The modern medical student works far harder than his predecessor. He must. The bleak and astringent wind of inflation and the prolonged course of study have withered away that amiable creature the " chronic medical " who was once a feature of Dublin. In some respects, however, the present day student is not as good as his counterpart of twenty-five or thirty years ago. It would seem that the modern schoolboy is not taught writing at all and that English grammar and syntax are not regarded as of much value. He seldom has any acquaintance with a second European language, nor does he know sufficient Latin or Greek to help him to understand technical terms. These latter handicaps are not so serious, but the bad handwriting and the poor command of English make note-taking very difficult and clear expression almost impossible. He is sometimes the despair of examiners who have to read papers and must sometimes guess at the meaning.

This neglect of groundwork is perhaps due to over-crowding in the secondary school curriculum, just as the medical curriculum itself has been overloaded. Parents cling to the idea that it is desirable to teach physics and chemistry to children who intend to study medicine. Where this is done at the expense of their general cultural education it becomes a positive handicap instead of an advantage. All the bodies and committees who have in recent years investigated medical education from the Goodenough Committee onwards have emphasized this point, but the anxiety of parents to get their children started early in life often overrides all other considerations. Finally, it must be admitted that among the increased number of entrants seeking to do medicine there is undoubtedly a certain proportion whose mental equipment is unequal to the task before them.

Since the Medical Register was established in 1858, figures of entrants to the medical schools have been available annually. They make a very interesting study. There was a gradual ascent to a peak of 540 in 1880 and 1881, followed by a decline to a figure between two and three hundred until the 1914–18 war when a maximum of 658 was reached. This was succeeded by a sudden slump to a record low figure of 92 in 1923. By 1930, the number was back to just over 300 and during 1939, 1940, 1941, 1942, was over 500. The acute decline in numbers did not follow this peak, but a nearly stationary figure of between 400 and 500 entrants has been maintained since. These are the figures for all Ireland including Queen's University Belfast. The separate figures of the Republic from 1938 onwards shows that they are roughly parallel to the total, being from 75 to 100 lower. (See Graph on next page).

ENTRANTS TO MEDICAL SCHOOLS



Why was there no decline in the last ten years similar to that shown in the twenties? Causes are multiple. Grants for educational purposes given for war services with the British forces were applied by the recipients to the study of medicine. The last few years have seen the end of the war service students and yet the numbers still do not drop. The reason is partly due to changed social conditions, and partly to the increased number of women students.

In recent years a higher proportion of medical students are the children of Civil Servants and of administrative officers in other spheres. The concentration of so many of these persons in Dublin makes it easier for them to arrange a professional career for their children and medicine has always seemed attractive and financially secure. Furthermore, these parents themselves are members of a salaried class usually without much capital so that a " safe " profession must be the best provision they can make for their children.

The number of women medical students in the Irish schools has grown in this century from one in 32 in 1900 to one in 5 in 1950. At present there is a yearly intake of something between 70 and 90 women. Many

of these are the daughters of Irish graduates practising in Great Britain who find it difficult to enter medical schools there. It will be of interest to point out curious variations in these figures. When the total dropped, the total of women dropped more steeply than that of men. In 1920, the total number was 324 students, of whom one in six was a woman ; in 1930 the total was 218, of whom one in nine was a woman ; in 1940 out of a total of 403 the women were to the men in the proportion of 1 to 4.3.

6. Post-Graduate Teaching

While undergraduate medical education has been provided for on too large a scale, little has been done in postgraduate teaching except in Dublin where the midwifery hospitals have brought it to a high state of perfection in their special subjects. Instruction in clinical medicine and surgery has in the main been confined to a refresher course for general practitioners given each summer by the Dublin hospitals acting together. By its very nature this is a superficial run-over in modern techniques and is not postgraduate teaching in the accepted sense.

To meet this real need for postgraduate teaching, especially for higher degrees, one of the Dublin schools might very well cease its undergraduate activities altogether. The schools of surgery of the R.C.S.I. with its affiliation with all other schools and with its complete set of departments might be suitable, if the necessary agreements could be made.

7. The Future

On the Medical Register of the United Kingdom there are nearly 84,000 doctors. This is an increase of about 20,000 since 1939, or over 1,500 annually. It would seem that saturation point has been reached as many of the new graduates find it impossible to get started in practice and many of the registrars who have spent several years training in a speciality have been unable to get consultant posts in their subjects.

The output of the Irish schools is about 350 each year, but not more than 50 to 60 can be absorbed into practice or official positions. About 300 of our newly-qualified doctors must go abroad each year either to Great Britain or elsewhere. But " elsewhere " is now also getting overcrowded and in most countries a surplus of doctors is beginning to appear. This is the case in South Africa, in New Zealand and in Australia. In the United States of America the same state of affairs is evident and this explains in part the reluctance shown by the American Medical Association to the admission of our graduates to practice. Finally, the British services which for so many years had absorbed the output of our medical schools have either now ceased to exist or are so much reduced in number that they may no longer provide a sufficient outlet.

Paradoxically enough, the newly qualified doctor has no lack of employment. The complexity of modern treatment and the tendency of increasing numbers of the population to go into hospital when they are ill has created an immense and unsatisfied demand for house physicians and house surgeons. But when these have served a year or two in this capacity they see no future in their employment which could continue indefinitely without promotion. Meanwhile, a new batch of the more recently qualified are waiting to step into their shoes.

What the future holds for the Irish medical schools must be clear enough. It will be increasingly difficult to provide funds for medical education on the scale at present demanded. The cost is mounting steadily and will continue to rise. The fees paid by students no longer show a profit, and if the modern trend is followed will show a considerable loss in each of the medical schools. It will then become necessary to buttress the financial position by subventions of quite considerable amounts. It is estimated, for example, that a whole-time department in medicine alone costs about £10,000 per annum. If this type of department is established in surgery and midwifery costs can hardly be less. There is no such sum available in our present schools. The State quite certainly does give grants to universities and to the schools of surgery of the R.C.S.I., but it can hardly be expected to give such sums as would be demanded to educate students for export only, or to educate foreign students who come here to study. It may be argued that Irish boys and girls who are anxious to become doctors should be permitted to do so even if they intend to go abroad, but it can hardly be maintained that non-nationals should be provided with these facilities at the taxpayer's expense even if this be desirable for reasons of national prestige. For some years the present position might be maintained by admitting foreign students and charging them fees sufficient to cover all the working expenses. However, with the example of the British Commonwealth countries before us we know that it will be only a matter of time before the majority of foreign students will find facilities for medical training in their home countries.

The remedy would seem to lie in a drastic reduction in the number of entrants to the medical schools and in the reduction in number of the schools themselves. This is clearly a very difficult problem to solve, requiring delicate negotiations as a necessary prelude. To a certain extent the problem may solve itself because, as it becomes increasingly evident that the medical profession is overcrowded, the number of entrants is likely to decline and some of the schools may find themselves too small in number to carry on.

It is well to recall that medical education in the Irish medical schools, especially those in Dublin, has always been in a fluid state. The Carmichael and the Ledwich schools, to mention two only, were important

establishments in their day, and their passing caused resentment and regret to many and brought to others considerable financial loss. Are we too apt to regard what we see around us as fixed and unchanging?

EDWARD T. FREEMAN

Comments on the Foregoing Article

No. 1—*by* JAMES M. O'CONNOR, M.D.

Dean of the Medical Faculty, University College, Dublin

I HAVE read Dr Freeman's characteristically lucid article with interest. I have been asked to express my views on it in a stated number of words and should like to do so in two—"I agree". But in these days one dare not be abrupt in print and I must write more.

That we in Ireland produce an excessive number of doctors is admitted. This is commonly justified on the grounds that we have particular gifts for this profession. It is sad to find an argument of such moment based upon conceit. If one but heard that Irish doctors are kind and sympathetic there would be general agreement, but the claim that we Irish have a special aptitude for technical medicine is, I fear, unsustainable. It is a very long time since I realized that it is foolish to talk of "the great Irish clinicians, Graves, Stokes, and Corrigan". It merely leads people on to ask "and after them, who?"

There is really no reason for Irish youth to be encouraged "to go for" medicine. In a large number of schools it is not merely encouragement, it is incitement.

I must, however, totally reject the criticism which one often hears that doctors are trained for export. Demos—in these days an economist—that says they must go. We have a responsibility to our youth. They must be trained as well as we can help them; but not needlessly in medicine. There are many other adventurous professions to which they may be invited, giving us a larger selection of experts who will help the healthy instead of the sick. Some of them will force their way at home. Somewhere and long ago, I read that the German chemical industry was made by the students cast out in large numbers by the great university schools of chemistry. They forced themselves on unwilling manufacturers to the great benefit of all.

The number of medical students should be reduced, and this can scarcely be done otherwise than by a reduction in the number of medical schools.

There is, however, another and more pressing argument for this reform. More, we are told, is known today about medicine and it has consequently become more difficult. I do not think that this is sound. It is ignorance, not knowledge, that creates difficulties, and in the last half century there has been a genuine decrease of ignorance in medicine. It is, I believe, easier to understand medicine today than when I was a student. The difficulty of modern medicine arises from the complexity of the methods of investigation and treatment. For while it is possible to be widely learned, it is not possible to achieve and to maintain many skills. Each requires continuous practice, and in medicine they are very numerous and very varied. A medical school must have at its disposal all these technical achievements (and that means a large number of exponents) so that every student will see before him and be able to appreciate everything that may be done for the patient. And it is of the utmost importance that all of these teachers, in first instance doctors, be bound in primary allegiance to the medical school, which will equip and sustain them. It cannot be done without very large endowment. Less is deception.

How many such schools may the community be asked to maintain? Five? Denmark with which we so frequently compare ourselves has two. One of them is among the best in the world.

JAMES M. O'CONNOR

No. 2—*by* V. M. SYNGE, M.D., F.R.C.P.I.

King's Professor of Practice of Medicine, Trinity College, Dublin

DR. FREEMAN has given a very clear account of medical education in Ireland. I agree with most of his statements of fact, with many of his conclusions, and with some of his pessimism.

I would not agree with the statement that all our medical schools are sadly deficient in both personnel and equipment. Most of the Irish medical schools have sufficient personnel and equipment to instruct classes of 60–80 students in each medical year and to instruct that number properly. We should not try to emulate some transatlantic medical centres by increasing the personnel until they almost equal the students in numbers. It is not desirable, or indeed possible, to introduce knowledge into a student in the same way as a pigeon feeds her young. Costly equipment and delicate apparatus may help in research or in the diagnosis or treatment of certain diseases, but no newly-qualified medical man would be expected, or even allowed to handle such apparatus, and such apparatus forms no essential part of the ordinary curriculum.

The fact that Dublin has a large number of comparatively small hospitals instead of a few big ones has been made a subject of criticism

in certain quarters, and one must agree that big hospitals are more economical to run and offer wider scope for research. On the other hand the small hospital has its own peculiar advantages. In Dublin the patient is still a patient—a human being of flesh and blood. In other more advanced medical centres he has sometimes tended to become a case or just a number or sometimes even a numbered guinea pig or experimental mouse.

As regards the medical curriculum the account given by Dr Freeman of the work of the 5th year in U.C.D. is not true of all the other medical schools. In T.C.D. there are very few academic lectures in the 5th year. The academic lectures are nearly all given in the 4th year, and the 5th year is almost entirely free for hospital work. I agree with Dr Freeman when he says that there are too many academic lectures, and I would go further and say that there are too many lectures that are too academic.

Dublin is too small a centre for much postgraduate teaching. A man who wants postgraduate instruction should travel abroad and imbibe ideas as well as knowledge. Let foreigners come here to study midwifery and let our graduates go abroad to study medicine and surgery.

What are the reasons which make a student take up medicine? First, he may be forced into it by a well-meaning but domineering parent who wants his son to follow in his own professional footsteps or who wants his son to be a member of a respected professional class and so shed social glory on the family.

Secondly, the student may just drift into medicine for no particular reason and with no particular enthusiasm.

Thirdly, the student may regard the profession of medicine, especially some branches of medicine where a secure pension awaits him at a not too advanced age, as a sound economic venture. If he is clever and has a flair for finance he may even hope for big money in medicine, especially in some of its more specialized branches.

Fourthly, the student may have a real zest for medicine—he may be a born doctor, who will overcome all obstacles, including the handicap of poverty, to reach his goal.

It is true, of course, that some students who take little interest in their medical studies at the beginning, gradually imbibe enthusiasm for their profession as they go through their course and in the end make excellent doctors, but one cannot escape the conclusion that a considerable number of those who take up the profession of medicine would have been better suited to some other calling.

Whilst this country produces a great surplus of doctors, there is no doubt that there is room for a much greater number of dentists. The public would have to be taught to pay more attention to having their teeth properly looked after, and facilities would have to be made available for the teaching of a larger number of dental students.

Dr Freeman does not think much of the secondary school education which most present-day medical students have received. Neither do I, but perhaps both of us are just *laudatores temporis acti,* unable to adapt our senescent ideas quickly enough to the changing world. Everyone should do some physics and chemistry at school whether he intends to be a doctor, a lawyer, a civil servant, or just a company director. The Americans have done at least one useful service to medical education : they have debunked the spelling based on long-forgotten classical derivations. It is a delight to the orthographic dub to be able to leave the " o " out of oedema, to eliminate the middle " a " from anaemia, to interchange the positions of the " r " and the " e " in goitre and still be perfectly correct.

Dr Freeman says " What the future holds for the Irish medical schools must be clear enough ". But is it ? A wise old Provost of Trinity once said " Ireland is the country in which the unexpected always happens and the inevitable never comes off ".

V. M. SYNGE

No. 3—*by* ARNOLD K. HENRY, M.B., M.CH.(HON.), F.R.C.S.I.

Professor of Anatomy in the Royal College of Surgeons in Ireland ;
Emeritus Professor of Surgery, University of Egypt

CIRCUMSTANCES have allowed me little more than the time for reading quickly, but with real appreciation, the valuable paper by the President of the Royal College of Physicians. I shall, therefore, limit the comments, which I have most courteously been asked to make, to my personal daily experience on four points.

Languages : Dr Freeman's stricture on the English written by students is a matter that deserves thorough investigation : the language is virtually the *lingua franca* of medicine, and apart too from its use in hospital notes and in examinations, English is the only medium through which the excellent work done in Irish Medical Schools is likely to have any wide currency. Those who examine for entrance should insist on harder tests in a subject that should be compulsory. As for Greek and Latin, I do not think that a schoolboy's study of these subjects is likely to help him much with medical terms he will meet, though nearly all of these come from one or other tongue. It is, perhaps, regrettable he should escape the stiff discipline of either, but I find that even if he is innocent of both we can palliate the defect ; for experience tells me that grasp of a subject improves at once when the meaning of its terminology has been explained and stressed in the course of lectures and demonstrations.

Anatomy and Physiology : I do not agree that " Anatomy, formerly the basic science of Medicine, has been ousted from that position by physiology and biochemistry ". Anatomy and physiology are an inseparable foundation. A London friend, a most conscientious and successful general practitioner, who after qualifying spent 7 years in post-graduate study, tells me his one regret in dealing with patients is a neglect of anatomy during his undergraduate days—the only days in which its rudiments are thoroughly presented and absorbed. The thing that matters of course, is the due application of this knowledge, but so far as I am aware there is only one school in Ireland—R.C.S.I.—where *applied* anatomy and *applied* physiology continue to form special parts of the curriculum. These long-established courses are taught in the third year while students are beginning their hospital attendance. They are, I know, particularly valued by these tyros when they are faced with living patients and also when as seniors they come to their final examination.

As regards anatomy, I think it worth noting that First Year students at R.C.S.I. (through the courtesy of the surgeons concerned), while they are studying, say, the thorax, go in rotation in groups of five to a Chest Unit and return to their dissections with real enthusiasm—not that more than two to three per cent of them are likely to specialize in surgery, but merely because they have been privileged to see a live lung or a beating heart. And enthusiasm is a thing with which to conjure.

Admission of Medical Students from Overseas : The presence in our faculties of these students is of immense advantage to themselves (as they will tell you), and also to our own students. A priest I met some years ago had overheard a discussion on the subject between two Dublin ' medicals ' ; the last words were " That's why we have to work so damned hard ". The traffic in fair dealing and courtesy, to say nothing of grace in the arts is never ' one-way-only ' : students have much to give and learn, and their duly regulated inflow from abroad is not, I feel, merely a matter of prestige as Dr Freeman suggests that it might *faute de mieux* become, but a question of privilege for *us*. On the material side, even if each taxpayer may have to shoulder a small burden in this respect, the total yearly sum these students spend in Ireland, apart from fees for examination, must be considerable.

Dr Freeman very rightly stresses the need of a background of general education for medical students, and I am sure that the presence of those from overseas can stir and ripen the Irish mind much as the world history of Herodotus must in its day have stirred and ripened even the brillant mind of Athens, for which " ungreek things were barbarous ". It would be sad, indeed, if Irish Schools of Medicine were to become ' closed shops '.

Liquidation : There is so much excellence in Dr Freeman's paper that one comes with a shock to the cold, ruinous suggestion that if the number of Irish Schools of Medicine is reduced, the Medical School of the Royal College of Surgeons should be liquidated as such and turned to other use. But why from all these schools single out the College ? Its old traditions, its young ideas, its unbroken record of teaching medical students in Ireland through 165 years—are these to go for nothing and to whose advantage ? The contributions of this school to Medical Science since the days of Abraham Colles still have a currency that is literally world-wide. It is its students and its progressive ideas that keep it young.

Returning to Dublin after working in schools and hospitals of other countries, it has been my privilege at last to find an institution fortunate in the absence of the spectre of contention, and therefore fruitful— an enzyme for the growth of peace as its alumni of many races scatter and diffuse its generous climate.

ARNOLD K. HENRY

No. 4—*by* STEPHEN SHEA, M.D.

Dean of the Medical Faculty, University College, Galway

I SHALL limit my comment on Dr Freeman's essay " Medical Education in Ireland " to the section in which he deals with the future, and that also to the future as it affects the Galway Medical School, with the growth and work of which I am acquainted over a considerable period of time. I would not presume to discuss the problem in the Dublin and Cork areas, as I have not sufficiently close contact with those areas and their problems.

In considering the significance of a Medical School, due consideration must be given to its place and function in the general structure of the health services in the region in which it is situated. The Galway Medical School, already over one hundred years in existence, has undoubtedly had an extraordinarily stimulating effect on the development of the hospital services in its own area. This is especially evident since self-government was introduced in 1922. The Galway Central Hospital, " quickened " by the presence of a Medical School, has afforded, and is affording progressively better services to the people of the county, and indeed to other counties as well. I have no doubt that the presence of a medical school in University College, Galway, was a determining factor in the decision to build a Regional Hospital for Connacht, in Galway. This hospital, which is now almost completed, requires, if it is to achieve the purpose for which it has been built, the status of a *teaching hospital.*

The daily presence of medical students in the wards of a teaching hospital ensures two extremely important things :

(1) The eager interest of the students in the latest ideas about the causes of disease, about diagnosis, and treatment, compels the teaching staff, who are also the functioning medical staff, to keep abreast of recent advances in their respective subjects, even when they are wearied by the stress and strain of a doctor's life. The students themselves do an important amount of necessary work in the investigation and treatment of cases, under the supervision of the staff. This work is done free of cost. Similarly, the young medical graduates, doing their first post-graduate year's work in their own hospital give generously of their time, energy and loyalty.

(2) As a teaching hospital, the hospital, and its staffing, equipment and working, will come under periodical inspection by the Irish Medical Registration Council, and by the General Medical Council. This will ensure that the Hospital will maintain the high standards required of a teaching hospital, and therefore, of a Regional Hospital.

As regards the question of cost, as far as the Galway and the Western region is concerned, the maintenance of the Medical School is essential, unless the millions of pounds already invested in the hospital building programme in Galway are, to a very great extent, to be wasted. Many millions of pounds have been invested in Galway in the Western Regional Hospital, in the Western Regional Sanatorium and Chest Hospital, in the Woodlands Orthopaedic Hospital, etc. The annual cost of maintenance of these institutions runs into hundreds of thousands of pounds. The £10,000 extra per annum required for the Medical School is a small sum in comparison, but it is gigantic in its importance.

It is an essential expenditure if the best possible treatment is to be given to the sick people in these institutions. This is surely the objective which all administrative bodies desire to achieve. To close the medical school would defeat the attempt to achieve the objective, and would be the worst kind of false economy.

The total amount of the money saved would not be great, as the University College would still have to continue to supply University education in the Arts and Sciences other than Medicine, and this would necessitate the continuance of almost all the existing appointments in the University College. The £10,000 referred to by Dr Freeman would still be necessary for the payment of the necessary staff of the medical department of the Regional Hospital, but the Hospital would lack the vital spark supplied by the Medical School. Even small classes of medical students supply the necessary stimulus to the staff, and would necessitate

the periodical inspection by the medical councils. These are such precious things that they must be retained. That is true economy for the Western region.

While it may be agreed that there are too many medical students in Ireland as a whole, and perhaps in Britain too, it is by no means easy to say exactly how many there should be. Certainly it would not be reasonable so to plan things that only fifty or sixty graduates a year were produced in Ireland, and then to expect to have precisely the most suitable types of graduate in the various categories required for the various types of work to be done. In this regard I am assuming for the purpose of the argument that about sixty is, as Dr Freeman says, the number at present absorbed annually. I don't know on what data the figure is based. I do know that we in Ireland are not at present employing enough doctors to do the work that is to be done. Galway Medical School has limited the number of medical students admitted, to the number which can be provided for by the facilities at present available there. The number could, if necessary, be further restricted.

That there are too many doctors in the United States at present appears to be doubtful. Gordon George, in an article in *America*, 25 April 1953, quotes Dr Donald Anderson, then Secretary of the American Medical Association's Council on Education, as estimating that in the United States there would be a shortage of 15,000 doctors by 1960, and Dr Howard Rusk, Chairman of the Medical Resources Advisory Committee of the National Security Board, as putting the doctor shortage at 22,000 by 1954.

With regard to Irish medical graduates going abroad, while it may perhaps be true that the number of opportunities abroad is shrinking, though the need for doctors is not, the fact of our graduates going abroad is not in itself a thing to be regretted. In the first place it is part of the Catholic Apostolate, because it is generally agreed by those in a position to know, the Catholic priests abroad, that, especially in the English-speaking world, the Irish doctor, even though he may not be a member of a missionary order, or associated with one, is almost always to be found, as an important figure, wherever he settles, in the local Catholic community. In this way he maintains the age-old association between the Church and Medicine. This missionary work is Ireland's principal contribution to civilization in the world to-day. Indeed we can never hope fully to realize, nor ever to repay the debt that we at home in Ireland owe to these same wandering Irish. They have given us a good name among the nations of the earth, and the international goodwill we so often experience is due to them.

As well as this, there is undoubtedly a material repayment of the money spent on the education of the emigrant doctor. It is well known that the

emigrant doctors send money home for years after they settle down, and they, and the others like them, and their friends and relations, contacts and descendants, are, to a great extent, the tourists who have become of such economic importance to us by their visits to Ireland each year.

Foreign students similarly, provided that the total number be kept at a reasonable proportion of the student-body, are a helpful asset. The presence of foreign students in the Galway Medical School does not affect the economic argument for or against the existence of the Medical School in Galway. The Medical School is essential in any circumstances. The foreign students cause no significant increase in the cost of running the School.

STEPHEN SHEA

No. 5—*by* PATRICK A. FITZGERALD, M.D., M.Ch.

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ANY clinical teacher who reflects on Dr Freeman's article will find in it much forthright good sense. I propose to deal briefly with some of his more controversial points ; incidentally, I am in agreement with him in most of them.

It is indeed a great pity that lack of accommodation, due to the increase of interns in our hospitals, has at least for the moment eliminated the resident student. Graves performed a great service for practical medical training with this innovation, copied all over the English-speaking world, not least in the hospitals of the United States. It is ironical that the recent American report should criticize our lack in this respect. A speedy return to this student-resident system should be ever in our minds.

As Dr Freeman notes, there is a tendency to overwork our students by too many " specialist " lectures. These often place too great a strain on a student's mnemonic powers, at any rate towards his final years, when his ability to make a practical evaluation of a case becomes paramount. Medical students at U.C.D. work approximately a 48 hour week at set courses, including their hospital attendances, and on top of this they do a good deal of private study. At the same time a defence of the *good* lecture is long overdue.

Our particular lack in clinical teaching is of tutors—young men, well qualified, with their subject at their finger tips, sympathy and enthusiasm in their hearts and time at their disposal. They could instruct divisions of the class in the well-proven routines of practical medical examination, and insist on the meticulous observance of proper methods and a routine. Our clinicians do this task with great assiduity

and perseverance, but the multitude of their other duties cuts short the time they can give. A start has been made in the provision of tutors, and no doubt it will be developed if funds become available. Even were it considered desirable, it would be impossible to replace lectures entirely by tutorials : the expense would be too great, and the teachers difficult to find.

I am not of the opinion that a good general practitioner is no longer a feasible aim for our medical school ; nor do I think we should lower our sights to the " basic doctor." General practitioners represent more a pragmatic frame of mind than a method of training. Dr Freeman recognizes the sympathetic instinct in many students and in such people no doubt he will find his prospective G.Ps. Any teaching modification necessary for such men is not at our clinical level but in a simpler and more easily applied teaching in the practical subjects. I feel we could well give our students more follow-on demonstrations in the scientific subjects, so that they could stand firm in their judgment on the many technical matters that require quick decision.

I note, however, that we appear to have advanced in this integration of the basic sciences with clinical medicine further than have many medical schools in the U.S., any criticisms in the American report to the contrary. Deitrick and Berson, who analysed the opinions of medical students in 41 different U.S. schools, come forward with the following : " In school after school there recurred the statement that most of the preclinical subjects were taught ' for their own sake ' rather than from the standpoint of their application to medicine " (and later) " specific suggestions were made by students . . . to correlate the knowledge of medical basic sciences with their clinical work." Such application of basic sciences to medicine has long been in vogue in Dublin, but could profitably be expanded.

Greater attention could well be devoted here to clinical research ; this is neither attractive nor necessary for the future general practitioner, but is not alone necessary in the development of the future clinical teacher, but also obligatory if we wish to improve the world status of our schools. Research is not absolutely called for in any medical system where service to patients and student-teaching can be conducted at quite a high level without it. But no medical school can command attention if it is not producing good original work, and this applies to the clinical as much as to the scientific field. Again (as in the case of the tutors) we are back to the matter of funds : clinical research demands elaborate filing systems, secretaries, well trained assistants and equipment. When will we be able to advance along this line ? The expenditure on Tulyar, the pride of our hippophilic nation, could have solved many problems of human suffering. They order these things rather

differently in Belfast, where the northern Government has just completed a large department of Clinical Science for the Queen's University.

Post-graduate medical education is mainly focussed on instruction in technique, though research inevitably enters in. Dr Freeman's interesting suggestion that one of our too numerous undergraduate schools might change to postgraduate training is worthy of consideration, but it is a subject to be approached with caution from all angles, not least the future prospects of trainees. The frustration of many a highly trained young English doctor should stand as a solemn warning against too rapid an expansion of such teaching facilities, just for the interest of the thing. At the same time, it would be fruitful to instruct our own clever young graduates here, at least to the stage that they can get a good start in the English Registrar world. The presence of young postgraduates would also heighten the mental atmosphere of our clinical world. One feels they now travel at too great a disadvantage, and thus the majority of our graduates in England end in general practice, a valuable but not necessarily a congenial way of life. This brings up the vexed problem of our emigrant doctors, a matter upon which Dr Freeman has touched. There are many interesting points here. True enough, the majority of our doctors have to emigrate, but so have the majority of our engineers and scientists. It is said that more of our bright young men should enter the Agricultural faculty, but they are probably too bright to do so until such time as the present bureaucratic stranglehold on agricultural advisory power and research freedom is relaxed. Opportunities at present simply do not exist in this country for all of a good mental capacity, and until they do exist such men will find a living elsewhere. It so happens that per million of the population we have no more medical students than most other civilized countries—less than Switzerland and Belgium, even if considerably more than the United States, where opportunities abound in other skills and medical entrance is closely guarded. The suggestion that at least the State need not subsidize the education of our non-national medical students does indeed appear to be a realistic and none too minor an approach to the problem, when one considers that a large number of the student body of two of our Dublin medical schools is foreign in origin.

Dr Freeman makes a strong plea for some full-time clinical teachers, and one must agree with his argument ; at the same time one should note that full-time men will create their own problems. They will, for instance, need the above type of research facilities ; they will need university departments and post-graduate assistants if their work is to be any way fruitful. The payment of such men will create problems such as now abound in the U.S.A. where full-time, whole-time, geographic-full-time and part-time workers of the most varied sort

abound in all departments. The problem is by no means as simple as it may appear at first. Yet the value of full-time clinical appointments is now so apparent that they have become almost a necessity, at least in a school that endeavours to start a research programme and complete the necessarily complicated integration of a full medical curriculum. A university hospital, or university clinical departments in the affiliated teaching hospitals, poses a not dissimilar problem. Hospital control has become a palpable necessity for a modern medical school, but the departments should be kept small, select and largely for research. They should really be prototypes of what can be done at top level, and should not engage very widely in medical hospital service of a general nature. Anyone can easily determine, from a consideration of the activities of the Department of Health, that running a teaching hospital is by no means a profitable occupation in this country. Possibly a modest expenditure on a research department of clinical science would be a wise pilot scheme. Incidentally, I would hazard a guess that Dr Freeman's estimate of £10,000 p.a. to run a department of medicine is too low. A figure about twice as high would be necessary.

The sources of our clinical teaching urgently require safeguarding. Departmental policy has created many specialized hospitals and units which tend to draw off from our teaching hospitals patients suffering from quite common diseases. If medical teaching is to be given the serious consideration it deserves, this tendency will have to be reversed. Such fragmentation of our very limited clinical resources should certainly stop : specialized units of the above nature should properly be placed where best they can function—in the immediate vicinity of the medical schools. There are provincial medical centres in Great Britain drawing on a population pool of over three times the total population of Ireland. Here we start with an initial population disadvantage, which is further aggravated by a stupid lack of comprehension of the great national importance of first-class education in medicine.

In case anyone feels unduly depressed that our little mosaic of practical medical education compares too unfavourably with the monoliths of other countries, allow me to quote from the two American authors on the U.S. hospital system :—

> The concepts of education and teaching in the medical schools vary in the extreme. Some of the large schools are still giving most of their instruction by didactic methods ; a few have only recently introduced true clerkship teaching, and it is still not well understood by some of the faculty members. Many schools rely upon voluntary clinical faculty members for almost all the clinical instruction, and are just beginning to employ a few men on a salaried or a part-time basis. In medical education, acceptance and adoption of new developments and concepts take time. In fact, the educational methods in use by today's medical schools run

the full gamut of the educational ideas of the past 25 years, and the educational opportunities offered to the students by some of the schools are of a lesser quality than those offered by others a quarter of a century ago. Some of the excellent recommendations contained in the Flexner report of 1910 have not yet been carried out.

It is generally agreed that low fare promotes high ideals; if so, ours should be above reproach. The U.C.D. medical school, which has a larger student body than most, has an allocation of less than a quarter of that of corresponding English or U.S. schools. Their sources of income are not alone richer but more numerous ; as well as State aid they receive money from industries, private benefactors and philanthropic trusts, all of which have no real counterpart here. If we starve, they are in danger of a surfeit, and their teaching may be lost in a welter of research projects and public medical service, while ours faints from lack of essential support. " Not to fall back is somehow to advance," sang Alexander Pope, and the miracle of it is that we have maintained this rather modest definition of progress — in the clinical world— by voluntary effort. However, inanition has its dangers ; Dr Freeman's somewhat grim reference to the Carmichael and Ledwidge schools impels one to hope that some fate better than genteel dissolution may yet be in store for us.

P. A. FitzGerald

No. 6—*by* EOIN O'MALLEY, M.Ch., F.R.C.S.I.

I HAVE read Dr Freeman's essay with great interest and have particularly admired the lucid manner in which he has outlined the growth of our present day medical schools and teaching hospitals with their ever-changing problems. Problems there are, and many ; and most certainly when these have been successfully diagnosed and treated, others will appear. This sentence may sound sententious and unnecessary, but it does embrace two basic facts which are worth keeping in mind—first, that no medical school anywhere is perfect or even near it, and secondly that medicine being a great and clumsy adolescent, ill-understood and unpredictable, those who teach a knowledge of it must be attuned to frequent and radical changes of method.

My undergraduate days are not yet so distant that I do not appreciate the difficulties which beset the medical student between matriculation and qualification. The first few years were fair enough. The subjects were reasonably well defined, textbooks were standard and the method of imparting knowledge was not too strange to the ex-schoolboy. The lectures and laboratory demonstrations covered a set course and the same

teachers were in charge from beginning to end. In the large schools there was the real difficulty of crowded classes and lack of any personal contact with the teaching staff. These years culminated in a really severe examination which covered anatomy and physiology, *i.e.*, the structure and working of the normal body.

Then came the clinical years and, for a time at least, utter confusion. There were lectures on pathology, on the use of drugs and other forms of treatment, and clinical lectures on the practical manifestations of disease but the three bore no relation to each other : while the pathologist was lecturing on tuberculosis, perhaps the parmacologist was discussing the treatment of tropical diseases and in the meantime the hospital clinicians were demonstrating cases of an entirely different nature. The student was not asked to approach a particular disease from different angles at the same time, nor to approach different diseases from the same angle at the same time, but was expected to accomplish the peculiarly difficult feat of approaching different diseases from different angles, all concurrently. For many students this meant no approach at all for some time.

The clinical approach to medicine, the bedside teaching, the live patient, all represented something entirely new. Interest was eager and searching, and the art and science of diagnosis soon exerted their own peculiar fascination. During these three clinical years, more than at any time, the student grows critical of his teachers. He encounters a variety of them—there are a dozen or more in each hospital, and in the unusual but prevailing habit among Dublin students, he may sample the clinicians' wares at any of eight or nine general and specialist hospitals. He discusses them with his fellows and may follow the current fashion which says one must go to Dr X or Mr Y at Z Hospital on Mondays ; he may favour Dr X because he is witty and good value, or Mr Y because he lectures like an examination grinder, or Dr Z because his clinics happen to be small and it is easier to see the patient. As the Final looms nearer he devotes his attention more and more to the Professors of clinical subjects at his medical school and to those clinicians who will be acting as examiners in the approaching tussle. Unfortunately, Dr X, Mr Y or Dr Z (or even the Professors) may not be the best teachers of medicine ; from personal experience as a student I do not believe that students realize the kind of teaching they most need. Moreover, different clinicians in the same or different hospitals may in a given period cover a very small range of subjects ; this is unavoidable in a loose system, as the nature of the subjects discussed must be related to the patients in the clinicians' wards at the time. Furthermore, medicine being the vast, dynamic, half-understood thing it is, different clinicians will expound different views on the same subject. A good undergraduate teacher must be fairly

dogmatic ; and so two first-class clinicians, both knowledgeable and skilled, may seem contradictory to the medical student, who has yet to lose his youthful ideas of simple logic and to learn that medicine is part science, part art.

I can well remember hot-headed arguments with fellow students on the relative views of two clinicians on a particular subject which was at that time rapidly changing ; one clinician held a little tenaciously to the older view, the other grasped a little precipitately at the newer. Time has shown both were right, both were wrong, but for us the difference was black and white. We felt that the only safe answer was to know the matter both ways and be ready to confront either examiner with his own teaching ; we did not realize how naturally aware clinicians are of these differences of opinion and how rare it must be that a student is penalized as a result.

During these clinical years the student gradually learns of the many different specific courses he must cover : Dr Freeman has pointed out the variety of these. He must attend six lectures in this, twelve in that, eighteen in another—all at different places, some perhaps several miles from his centre of activities. He must also fit in his hospital residencies—and the latter lose much of their value if taken at a time when he must be continually rushing off to this or that lecture, or working for an approaching examination in non-clinical subjects. It can be a nightmare to fit all these parts into the available time. The physical difficulty of getting from place to place within schedule can be a real one.

An even greater physical difficulty is to get to the source of medical teaching—the patient. The large size of classes limits the facilities a student has for practical clinical experience. The period of dressership in hospital should be the ideal time for concentrated practical clinical work, but unfortunately, owing to the crowded later years, most students try to take this period when still too junior to derive full advantage from it.

These loosely recalled memories of past difficulties are perhaps highly coloured ; but as time goes on these difficulties are becoming more serious for the new students. Much of the trouble could be cured by closer organization of medical schools and teaching hospitals. Teachers should be responsible to both medical school and hospital, and the teaching hospitals in formal liaison with definite medical schools. A hospital should take a limited number of students only—depending on the amount of clinical material available for teaching ; a medical school should take no more students than it can properly cater for with its staff and equipment, nor more than it can place at its associated hospitals. The school should then be in a position to organize the student's progress so that he can devote his time to the study of medicine rather than to the study of how to study it ; some minimal uniformity of teaching would be possible, and a balanced course of study. Full-time

clinical men in the medical school must come—be they teachers or researchers. Without them there can be no real postgraduate teaching ; no opportunity for the men whose bent is clinical research ; no hope of regaining our prestige abroad ; no avoiding the inevitable timelag between new discovery abroad and its application at home.

Finally, I would urge far closer cooperation between the teaching hospitals—particularly those attached to the one medical school ; to compensate for their small size they should practically coalesce for teaching purposes—with interchangeability of departments and staffs.

I have deliberately concerned myself with a criticism of some of the more obvious defects of our present system. Of its advantages I have said nothing ; in making changes to remedy the defects there will undoubtedly be something lost—but on balance, the changes are necessary.

EOIN O'MALLEY

Irish Population Problems

EIGHTY YEARS A-GROWING

1871—1951

by EDWARD J. COYNE, S.J.

I

A MAN still under sixty years of age could easily remember his father filling up the form for the first Irish Census of the twentieth century in April 1901. He can to-day read in the contents of the 1951 Census the results, in terms of population, of the fifty years of the not uneventful political, social and economic history through which he himself has lived and which he himself, in no matter how small a degree, has helped to shape. For the 1951 Census figures of population, marriage rates, births, deaths and emigration must be " results " : they are not mere chance figures. They are the effects of causes, causes which are complicated, obscure, numerous, extremely varied—and extremely difficult to discover or to measure.

Such a man's father, filling up his form in 1901, could have recalled his own father filling up the 1871 Census form. He might still be living, late in his eighties perhaps. His recollection of the social, political and economic events of the thirty years, 1871 to 1901, would enable himself and his son to watch how a nation's population position can change ; how its population problems arise from, and are inextricably intertwined with, its political, social and economic problems. They could see how, in the comparatively short period of two generations, the not unusually long life-time of a single man, truly colossal revolutions may take place in a nation's political systems and economic life : revolutions which could not possibly, in that short time, have completely worked out their influences on the level and structure of the population. They would realize that the population of the Twenty-Six Counties has been and is still but adjusting itself to entirely new conditions, and that this adjustment, while going on rapidly, must of its very nature seem slow and seem very puzzling and depressing. Had they a sense of history, they would realize how unwise it is to form conclusions about population problems from the experience of two or three inter-Censal periods and how slowly and laboriously even tentative forecasts of future trends have to be worked out. Our octogenarian father would be especially fortunate for there can be little doubt that the year 1871, in which he may have been five, was a pivotal year in the life of modern Ireland.

In 1871 the population of the Twenty-Six Counties was 4,053,000 : during the previous ten years it had fallen by 349,000 : and there was an average annual emigration of just 70,000. In 1951 the population was 2,961,000 : in the eighty years it had fallen by 1,000,000. Moreover, the country had lost in addition 1,600,000 persons—its " natural increase " (births minus deaths) in the eighty years. This is the same as saying that in the life-time of our octogenarian father there was a net emigration of some 2,600,000[1] persons from the Twenty-Six Counties.

A figure like this can be made sound sensational—the " vanishing Irish " with a vengeance. But a great " mother-country " like Ireland has been able to send forth its sons and daughters in these numbers without affecting the vigour of its national life. The average annual *rate* of the " natural increase " in 1946–51 was noticeably higher than that in the period 1871–1881, indeed it was the highest on record. The actual size of the average annual natural increase in 1946–51, 25,500, was 25% higher than in any other inter-Censal period except 1871–81, when it was 31,800 : but the population in 1871–81 was nearly 4,000,000, while that in 1946–51 was less than 3,000,000. Watching the stream of water flowing out of Shannon Pot in Leitrim one might foolishly be tempted to talk about the " vanishing Shannon ".

The decade 1871–1881 was noticeable for four major events : the Irish Church was dis-established in 1869 ; the Land Act of 1870 was passed ; there were three years of near-famine in 1877, 1878 and 1879 ; and a beginning was made on the educational problems by the Intermediate Education Act and the establishment of the Royal University. There were, also, at least three Coercion Acts, the Land League was founded, in 1875 Parnell was elected as M.P. for Meath and in 1880 became Chairman of the Party.

In the 25 years[2] between 1853 and 1878 the yearly average number of evictions in Leinster was 912, in Munster 1,076, and in Connaught 960 : in the year 1880, after the three years of failure of the potato crop, the numbers of evictions were 1,363 for Leinster, 2,345 for Munster and 1,995 for Connaught. Just before this decade, in 1864, a speaker in the very non-revolutionary atmosphere of the Irish Statistical Society had said :

> Under the present laws no Irish peasant able to read and write ought to remain in Ireland. If Ireland were an independent country, in the present state of things there would be a bloody insurrection in every county, and the peasantry would ultimately obtain the property in land as they have obtained it in Switzerland and France.

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[1] All through this article the roundest of round figures are used.

[2] " In the 30 years succeeding the Famine more than 500,000 people were evicted from their homes and this was answered by over 20,000 agrarian outrages ". (*Public Administration in Ireland* : Vol. II, p. 61).

There were living in 1871 nearly 3,000,000 Irish born persons in such prosperous and expanding economies as the U.S.A. (1,850,000), Canada (220,000), England (567,000), Scotland (208,000) and Australia (200,000). It was inevitable that the attraction and encouragement from these lands of opportunity (the " pull "), helped by the conditions in Ireland (the " push "), should produce large scale emigration.

There was, moreover, a certain " pattern " of events in that decade which was to repeat itself in every succeeding decade up to 1914. A number of abuses and injustices began to be remedied : in this decade, a beginning was made towards ending the Protestant " Ascendancy " symbolized by the Established Irish Church, and towards ending the injustice of " landlordism ". Secondly, some positive, constructive steps were taken towards re-establishing the Irish nation : in this decade, some opportunities for secondary and University education were given to Catholics. Thirdly, there was a constant vigorous economic and political agitation and, indeed, cold and hot war carried on by Irishmen for economic and political justice : in this decade, the foundation of the Land League and the coming of Parnell. Fourthly, and all the time, there was a steady flow of emigrants leaving the country and a steady fall in the population. This decade, 1871–80, was, as I have said, a decided and decisive turning point : a beginning of movements which have hardly yet exhausted themselves, but which by 1922 had reached goals which their originators could not have foreseen. All statistical accounts of the history of these last eighty years should be read with the knowledge that they are but a reflection of a very small thread of the wide and turbulent stream of Irish life and history in that period. The past statistics cannot be truly understood unless related to the happenings which moulded them to what they were : and present statistics or statistics of our present Irish living society should be read with an eye both on past events and present conditions and trends.

In 1871–80 there was an annual average net emigration of 50,000. The marriage rate in that period was 4.5 per 1,000 of population, and the birth rate 26.31. In the next decade, 1881–90, the dreadful conditions in Ireland, and the opportunities in U.S.A., Canada, and Australia combined to raise the figure for net emigration to just 60,000 per annum. One of the effects of land legislation seems to have been an increasing difficulty for tenants evicted from one estate to find any other holding to settle on. At any rate, much the same pattern of events occurred in this decade as in the former : Coercion Acts, three Land Acts, a Home Rule Bill, the Land League war, and an advance in education and experience and skill in organization for political, social and economic purposes.

Two points of great importance should be recalled. The rent being paid in these decades by the smallholders of the Twenty-Six Counties

came to an *annual* sum of about £10,000,000. This vast sum of money, equivalent to about £35,000,000 in to-day's money, was paid mostly to absentee landlords and was not re-invested in the land or even spent in Ireland. Secondly, an English Commission later on estimated that Ireland was being, and had been for decades, grossly overtaxed, and that a sum of about £2,000,000 a year was being paid to the English Treasury over and above the cost of governing the country. Moreover, nearly all positions of power, influence and reward were in the hands of a small minority of Protestants : there were few chances for Catholics of ability making use of their improved education to advance themselves in the various professions. In this decade, however, under the 1881 Land Act rents were reduced and fixed, and in 1887 they were again reduced. It was a woefully hard decade, with yet another potato crop failure in 1886 and all agricultural prices falling. But causes set in motion during the previous ten or fifteen years were producing cumulative effects. A by-product of the granting of some rights and security to tenants led unexpectedly to a new constructive move in the '90's. The farmers, because of their new security, in the seventies and eighties, were able to get easier credit from merchants and shopkeepers. This led to a very unhappy situation in certain districts which added a new word to the English language—gombeenism. In its turn this was one of the causes of the Co-operative Movement being launched in the 1890's.

But the population continued to fall and emigration went on. In 1881 the population was 3,870,000 : in 1891 it was 3,469,000—a fall of 401,000, in the ten years, an annual average fall of 40,000. There was a net emigration in this decade of nearly 600,000—an annual average of 60,000.

The decade 1891 to 1901 not only saw the cumulative effects of both the remedial and the constructive action of the previous twenty years emerging. It also saw four major constructive institutions set up, each of which was to play an important part in the next fifty years. Land purchase was acquiring momentum and what had been done was seen now to compel, willy-nilly, much more to be done : in substance, the country was now certain to become in a short time a country of owner-farmers. Actually, by 1922 " over 316,000 holdings, comprising an area of over 11,000,000 acres were bought by the tenants from their landlords under the various State-aided schemes of land purchase for the total inclusive price of £110,000,000 or thereabouts ". But now other powerful forces were brought into action to influence Irish life : in 1891 the Congested Districts Board was set up ; in the 1890's the agricultural co-operative movement was started ; in 1898 the County Council system of local government was introduced ; and in 1899 the Department of Agriculture and Technical Instruction was created. As has been said, the same pattern of events was repeating itself from decade to decade

Moreover, the " emigrants' remittances " from many of the 3,000,000 Irishmen and women who made good in America or Australia came to swell the income of the country.

But in this decade, too, the population of the Twenty-Six Counties kept on falling : it was 3,469,000 in 1891, it fell to 3,222,000 by 1900, —an annual average fall throughout a relatively prosperous, and certainly a politically vigorous, decade, of 24,700 persons. The net emigration during the period was nearly 400,000—an annual average of just 40,000. It is interesting to note that in that decade the " natural increase " of the 3,469,000 people fell to 15,000 a year : in 1952, with a much smaller population, the " natural increase " was about 29,000, nearly twice as large.

The following decade 1901 to 1911, " recollected in tranquillity " seems to have been the only really " normal " decade in our octogenarian's long life. It was a decade of relative peace, of prosperity and progress. It saw new and virile political movements and organizations becoming ever more active : economic self-consciousness growing : social and artistic life developing. There were two major industrial Exhibitions in Cork and Dublin within the period : various industrial and agricultural development societies were formed. The National University, with its constituent colleges, came into existence and technical schools were being opened all over the country. The names of Sinn Féin, the Abbey Theatre, the Gaelic League, the G.A.A., call up memories of the sort of vital national activities that our " dying ", " vanishing " nation was able to engage in. The causes set in motion in other decades in every sphere, political, economic, agricultural, agrarian, social, literary, were operating intensively and producing their effects.

Nevertheless, in this decade, too, the population kept on falling but at a much slower rate. In 1901 it was 3,222,000 : by 1911 it had dropped to 3,140,000—an annual average fall of 8,200, almost exactly one-third of the annual average fall during the previous decade. The net emigration during the decade was 266,000—an annual average of 26,600.

The decades after 1911 are too close to us and their history too well known to need any detailed description. They were decades of world and national turmoil, but at the same time of immense progress in the material sphere. A nation that was able to achieve success in a political and military revolution of the 1916 to 1921 type can hardly be considered as in any way effete, lacking in virility or in the determination to continue to exist. A nation that then came through a severe civil war with all its costly destruction ; that proceeded to build up a new State ; that survived two major agricultural slumps in 1923 and 1930 ; that fought an " economic war " with England, maintained its neutrality and, to a remarkable degree, its standard of living during the World War II ; that all the time kept on at the exploitation of its resources from the Shannon Scheme

to the latest chocolate crumb factory—such a nation hardly merits the epithet of " vanishing ", no matter what its emigration figures are. For every one vigorous boy or girl who left its shores, two stayed behind and continued the work that their grandparents and great-grandparents had commenced in the sixties and seventies of last century.

There seems to me to be one clear conclusion from the population history of the last eighty years. A country may achieve enormous material progress and lead a very vigorous political, social and economic life despite the fact that it has a large net emigration and that it is losing population steadily each year. If the present generation and the following do not achieve as many solid gains for the nation as have the last two generations, they cannot plead as an excuse the population problems and the emigration they are faced with. The fall in the population of the Twenty-Six Counties as a whole has been stopped : indeed, it is true to say that this fall was stopped many years ago. Our relatively large emigration figures, now running at a yearly average of about 24,000, are due to our relatively large " natural increase ". We have an abnormally low marriage rate, with both men and women marrying at a somewhat later age, than is usual in European countries : and yet our fertility rate is so high that we possess this large " natural increase ". This is not a sign of a " dying race ". The Ireland our emigrants leave to-day is a very different Ireland, both from the point of view of *morale* and from that of material welfare and opportunity than the Ireland of 1871–1891. In one sense, the successes of the last eighty years, especially in the material order, have themselves produced the conditions leading to modern emigration. The raising of the standards of living for all classes of the community has occurred at such a rapid rate that we have been unable to step up the exploitation of our natural resources rapidly enough to give these standards to more than a certain population. If we all wish to consume more, we must produce more : and consumption can be increased very rapidly, while increased production, and still more increased productivity, take a much longer time.

Certainly, the figures contained in the latest Census Report, 1951, present no evidence for pessimism or sensational alarums and excursions about our population problems. Problems there are and difficult problems : and they should be known in their true magnitude and complexity. But compared with the political, social and economic problems met and overcome in the last eighty years or even in the last forty years, they are pygmy problems. The crude marriage rate, 5.3 in 1953, stands at a considerably higher level than any pre-war rate since 1864. When the rate is related to the unmarried section of the population, we find that in 1910–12, for every 1,000 women unmarried aged 15 to 49, 32 married each year : in 1950–52, the corresponding figure is 43.4. The birth rate, too, is definitely higher than in the twenty year period

1921–40. The fertility rate of our somewhat late marriages is 80% greater than that of Scotland and 2½ times as great as that of England and Wales. The death rate during three of the last five years inter-censal period reached a record low level, while the infant mortality rate stands to-day at 39 per 1,000, whereas it stood at 91 in 1901–10 and even at 66 in the decade 1941–50.

It is true that the marriage rate, even after the improvement in it of recent years, is one of the lowest in the world. This has given rise to a certain amount of sensational journalism and rather highly-pitched jeremiads about the lamentable position of young men and women in this country. The impression is given that in Ireland no one wants to marry or is allowed to marry : that parents and priests are in a conspiracy to stop people marrying. Because the marriage rate is *only* 5.3 per 1,000 of population, so the argument runs, there must be the intervention of some free agents, parents or Church, restraining the young from courtship and marriage. There is sufficient truth in much of this kind of criticism to make it hard to expose its radical falsity and false implications. But granted all the real truth there is in it, surely the fact that the marriage rate *is* 5.3 is more important and more significant than that it is *only* 5.3. If it *is* 5.3, then there must take place *each year* some 16,000 marriages. There must be some 32,000 young men and women, who are able to beat down the combined opposition of parents and priests alike year after year. There have never been since 1881, so many marriages (not proportionately only, but absolutely) taking place each year in the Twenty-Six Counties as there have been since 1941. In the decade 1881–1890, with a population of about 3,500,000, there were only 14,700 marriages each year : in the decade 1941–50, with a population of 500,000 less, there have been 16,000 marriages each year.

It is just as important to stress that 32,000 people do marry each year as it is to stress that another 8,000 do not marry : indeed, more important. It would only require another 4,000 marriages each year to give the Twenty-Six Counties a crude marriage rate of about 6.6—a rate which in pre-war years was a common rate among countries with rural economies and without easy divorce. It is not easy to say what is a desirable marriage rate for a country : but it is manifestly unfair to criticize our marriage rate because it is not the same as countries highly urbanized and industrialized, with divorce and habits of family limitation. As was said above, the fertility rate in the Twenty-Six Counties is very high : Ireland leads the civilized (and Christian) world in number of births per 1,000 married women aged 15 to 44 : that number is 254 : England and Wales have the lowest, 111, though their marriage rate is 8.1. On the whole, it is surely better for a country, from every point of view, to have fewer marriages which are true Christian marriages,

indissoluble and fruitful, than many marriages which are barely shadows of marriage.

This is not to say that it is not desirable for the Twenty-Six Counties to establish such social and economic conditions as will enable 40,000 or 45,000 men and women to join in Christian marriage each year instead of at present 32,000. But at least there are 32,000 : and they are becoming more each year. It would only require another five marriages each year in each parish of the Twenty-Six Counties to raise our marriage rate to a normal level. This will come as the adjustment of which I spoke above proceeds : population conditions are still very fluid as, indeed, is our whole social and economic system. We are over-fond of asking for incompatibles to exist at the same time and over-impatient at the slowness of nature, including human nature, to adjust itself to our artificial man-made environment. We should probably find that if we had each year five comfortable houses, furnished and empty, at a low rent in each parish, neither parents nor priests would be able to (or would want to) stop five marriages taking place each year. But we should then be ready to accept the normal consequences : our fertility would send up our " natural increase " very rapidly, much too rapidly to enable us to absorb it into our economy—and net emigration would continue and probably increase.

Some of our population-critics and reformers want to have (i) marriages at an earlier age ; (ii) many more marriages ; (iii) big families ; and (iv) no emigration—all at the same time and all quickly. These final objectives are desirable—as final objectives. But, like currency-reformers, population-reformers might do irreparable damage to a country's moral, social, economic and even political life by applying some of the methods and measures that have been suggested. There are four " variables " mentioned above : they are matters for the individual free decisions of a multitude of free human persons. They are closely connected with some of the most sacred and most precious values of human and Christian life. They involve delicately-balanced choices and decisions affecting the life-long happiness of men and women. *Sancta sancte tractanda :* and direct State interference is hardly the suitable method to employ here. The State can do much, in the relatively limited sphere in which it has competence, to produce social and economic conditions, which of themselves will lead people to modify freely their decisions about marriage, families and emigration.

To the four variables mentioned above may be added certain others closely connected with them and well worth pondering on : the material standard of living desired and effectively pursued by individuals : the varying ambitions to have scope for self-development : the productivity of a person's labour : the illegitimate birth rate : and the practice of family limitation. We all at times are impatient at the sorry scheme of

things as we find it and would gladly re-mould it closer to our desires. But it is a great part of wisdom, and not only of Omar's fatalism, to recognize our limitations and to know how much of an evil may have to be tolerated, at least temporarily.

To think that two and two make four
And neither five nor three
The heart of man has long been sore
And long is like to be.

II

To speak of " persons " emigrating " from the Twenty-Six Counties " tends to conceal the true nature and the true magnitude of the problem of emigration. " Persons " will be men or women ; they will be married or unmarried ; they will be so young or so old ; they will be skilled workers or unskilled ; above all they emigrate not from " Ireland " or " the Twenty-Six Counties ", but from some particular home or homestead in some particular townland of some particular county.

In the limits of an article it is impossible to analyse our emigration so fully and completely or to differentiate so precisely between the various types of emigrants. Indeed, we have not statistical information to enable us to do so. But some attempt can be made to pin-point the localities which are emigrating centres and to make some reasoned guess about the chances of emigration from these centres lessening or ceasing.

In the forty years, 1911 to 1951, there were declines of population in twenty-two of the Twenty-Six Counties. The total of such county-declines amounted to 400,000 persons. But four-fifths of this total decline, 325,000 occurred in eleven counties. They were the following :

Cork	51,000	Clare	23,000
Mayo	50,000	Leitrim	22,000
Donegal	37,000	Galway	22,000
Kerry	33,000	Tipperary	19,000
Roscommon	25,800	Sligo	18,500
Cavan	25,000		

These are absolute figures and are affected by the size of the county and its total population. Cork's loss in the period was only 13.0% of its population in 1911 : but Leitrim's loss, a much smaller absolute figure, was 35.2% of its population.

In the five year period 1946–51, which is of more immediate utility in any analysis, there was a decline in twenty of the Twenty Six Counties amounting to a total of 58,000. But nearly three quarters of this decline 41,500, occurred in nine counties, as follows :

Kerry	7,000	Cavan	4,000
Mayo	6,000	Clare	4,000
Galway	5,000	Leitrim	3,000
Donegal	5,000	Tipperary	3,000
Roscommon	4,500		

These figures show the necessity of trying to divide the twenty-Six Counties up into smaller areas for the purpose of examining the nature and causes of emigration. In many counties there is a definite trend to stability of population : they are either able to maintain their present population or at least are approaching a position in which they will be able. In other counties the percentage decreases over many years, and especially the percentage decreases in the last inter-censal period, 1946–51, suggest that the forces producing declines in these counties have by no means exhausted themselves. The absolute figures may not be large, as, for instance, in Leitrim[1] which is territorially a small county and has already lost huge numbers. But the percentage figures show that the county is still far from being able to provide a satisfying living for many born in it. The counties with the largest percentage declines between 1946–51 are :

Leitrim	7.6%	Longford	4.6%
Roscommon	6.0%	Clare	4.4%
Cavan	5.6%	Mayo	4.2%
Kerry	5.4%	Donegal	3.5%

with Monaghan, Galway and Sligo about 3.0%. These eleven counties accounted for 45,000 of the total 58,000 decline in all counties showing a decline. Obviously, there is some special problem here. Most of these counties have relatively high density of " country population " per 100 acres of agricultural land. For instance, the average of such density for Leinster is 11.6, for Munster 12.2. But Donegal has 25.0, Mayo 19.0, Monaghan 14.7, Sligo 14.3. It is hard to resist the conclusion that these counties will continue to show declines in their population for some years to come. As the population grows smaller there will be smaller annual losses, and eventually in some ten or fifteen years a state of equilibrium will be reached—as it has been reached in certain other counties. It will be only then, with this new stable population adjusting itself to new economic conditions, that some hope of a slow increase will appear.

But this decline in population in these counties contributes relatively little to the total emigration from themselves or from the country as a whole. The total decline in the twenty counties was 58,000 : but the population of the country as a whole increased. Consequently that

[1] Leitrim had a population of 90,000 as late as 1881 : it has to-day one of 41,000 a loss of 54.4% in 70 years.

decline must have been compensated for by increases in other counties. And nevertheless there was a net emigration of some 120,000 persons in five years. Even should every county manage to maintain a stable population—and only six have done so up to this—there would still be a large net emigration.

The problem of declines in population in counties is one problem, that of net emigration from counties is quite a different one. Of the total net emigration of 120,000 persons (1946–51) nearly 105,000 or seven-eights came from 13 counties. It is obviously in the parishes and townlands of these counties that the causes of emigration have to be sought. The thirteen counties are as follows :

SOME POPULATION FIGURES :

1946—1951

County	Fall in population	Per 100	Natural Inc.	Net Emigration	Rate of Net Emig. Per 1,000 per annum	Density of county population Per 100 acres of agric. land
Cork	2,384	—0.7	10,800	13,194	7.9	12.2
Galway	4,997	—3.0%	7,195	12,192	15.3	14.7
Kerry	7,249	—5.4%	4,048	11,297	17.7	16.7
Mayo	6,253	—4.2%	4,657	10,910	15.3	19.0
Donegal	4,987	—3.5	4,780	9,567	14.6	25.0
Limerick	1,320	—0.9	7,535	8,855	12.7	12.3
Tipperary	2,701	—2.0	5,963	8,664	13.0	10.0
Clare	3,735	—4.4	2,732	6,467	15.9	11.4
Wexford	1,823	—2.0	3,683	5,506	12.3	11.5
Roscommon ...	4,408	—6.1	1,089	5,497	15.9	12.1
Cavan	3,978	—5.7	1,333	5,311	15.8	13.6
Kilkenny	1,477	—2.2	2,753	4,230	13.1	10.1
Leitrim	3,382	—7.6	561	3,943	18.7	13.2

Possibly the most unexpected feature of this table is the presence of three such counties as Cork, Limerick and Tipperary, and, indeed, of Wexford and Kilkenny as well. The table brings out well two things : first, how the figures for the simple decline in population can mask the real position ; and secondly, how necessary it is to examine small areas,

even much smaller than county-areas, if the causes of emigration are to be found.

Cork and Limerick have achieved, or almost achieved, stable populations ; Tipperary, Wexford and Kilkenny are rapidly approaching stability. Yet Cork has the highest net emigration in the country, 13,000 ; and the other four have a combined total net emigration of 27,000, or over 5,000 a year, about one-fifth of the whole net emigration from the country as a whole. Moreover, all five have relatively low densities of " country population " per 100 acres of agricultural land.

III

In the period 1946–51 there was only one county that had a net immigration : Dublin. Dublin County and Dublin County Borough had a population of 636,000 in 1946, and one of 693,000 in 1951—an increase of 57,000. Its " natural increase " during these five years was 39,000, 11.9 per 1,000 per year, leaving a net immigration of 18,000. This county's population has grown by 187,000 since 1926, when it was 506,000. The density of " country population " per 100 acres of agricultural land in 1951 in County Dublin was 20.2, a density exceeded by only one other county, Donegal, with 25.0, and equalled by only one other, Mayo, with 19.9. No other counties come anywhere near this density : the nearest is 14.7 in Galway and Monaghan.

There is here an obvious, but most significant fact : " country population " per 100 acres of agricultural land tends to increase where there is a relatively large " town-population " : it will tend to decline (if it is dense as in Donegal and Mayo) by way of emigration, if the " town-population " is relatively small. That is perhaps the most important guide to population policy in Ireland that we are likely to get : we must concentrate, not on diminishing Dublin, but on increasing the population of our provincial cities and towns. There are in the county area of Dublin (leaving out the city itself) 171,000 persons : and of these, 135,000 or 78.77% live in towns and villages, and only 36,000 or 21.3% outside towns and villages : and yet the density of " country population " per 100 acres of agricultural land is 20.2 and there is immigration to, not emigration from, the area. In Leitrim with only 13.2 density of " country population ", there is heavy emigration.

There were, in 1946–51, five other counties, apart from Dublin, which were able to maintain their 1946 population and absorb some of their " natural increase ". These were Carlow, which increased its population from 34,081 to 34,162 ; Kildare (64,849 to 66,437) ; Louth (66,194 to 68,771) ; Meath (66,232 to 66,337) ; and Wicklow (60,451 to 62,590). These counties had, of course, a large net emigration, totalling

for the five, 9,000 in the five years, that is, about 1,800 each year. Indeed, three of them, Carlow, Kildare and Meath had relatively high *rates* of net emigration—9.3, 8.8 and 8.6 per 1,000 population per annum. Louth and Wicklow had low rates—3.3 and 2.1. The first significant point here is that, whatever happened in these counties, there have been, since 1926, definite indications that their economies are expanding economies capable of assimilating and supporting more and more persons each year. Wicklow and Louth have steadily increased their population since 1926 ; Kildare and Meath since 1936, and now Carlow has begun to increase since 1946. The marriage and birth rates of these counties have been above the average. They are among the highest valuation of lands per head and among the highest density of county population per 100 acres of agricultural land.

The second significant point is the disappointingly slow rate at which these most favourable counties are moving towards a time when they will be able to absorb in their economies at the desired standard of living their full natural increase. Wicklow has gone nearest to it : it had a net emigration of only 474 in 1936–46, and only 641 in 1946–51. Moreover, in both periods, Wicklow's marriage and birth rates were high. In the period 1936–46, it had to and did find jobs or marriages for about 188 persons each year : but in the five-year period, 1946–51, it had over twice as difficult a task, having to absorb about 430 persons each year. It is hardly likely that any of the other four will be able to absorb a growing " natural increase " completely : it looks as if about one-quarter of the natural increase would have to find work outside the county.

The third significant point is that in all these counties there is present the influence of large town populations. The near presence of the city of Dublin, of course, to large parts of Meath and Kildare must be an important factor. Meath has only 17.5% of its own total population living in towns and villages, and it has only three towns of any size, Navan Kells and Trim. But at one end of the county right on its border is Drogheda and at the other end is Dublin, its northern suburbs and towns. The three counties can be looked upon almost as a single economic unit : and if that is done, then the proportions of town to country population is high.

Louth has 63.0% of its population in towns and villages and a density of county population of 14.4 to the 100 acres of agricultural land, second to Dublin as far as Leinster counties go. We may go farther in our grouping, and consider the whole five counties, Louth, Meath, Dublin, Kildare and Wicklow as a " population unit," really a single economic unit for many purposes. If we do this we find a large tract of country with a number of growing towns of considerable size, Dundalk, Drogheda, Bray, Arklow, Navan, Athy, Naas, Wicklow, Newbridge, Ballbriggan,

about 49% of the total population " town-population", a relatively high density of " country-population " per 100 acres of agricultural land, and a relatively low rate of net emigration. The key feature seems to be here (as, indeed, in other counties) the ratio of town to county populations.

IV

Outside these five special counties, one of the most favourable counties, Carlow would have to expand its economy at the rate of about 163 men's jobs each year. It has an average annual natural increase, with an almost stable population, of 327. If its economy were able to absorb this number of persons each year, say 160 new jobs, marriages and homes, then its net emigration would cease and it would begin to grow in population. That is, roughly, the measure of the problem for a most favourable county. But this would be 160 new jobs *each* year—and as the population grew, the natural increase would probably grow too. This would mean that there would have to be an increasing number of new jobs each year. Lacking these opportunities for new jobs and new marriages, emigration would become inevitable unless those with jobs in the county were willing to support those without jobs. The study of these " county " cases, show how difficult it will be to *lessen* emigration, not to speak of stopping it.

A county like Leitrim had a " natural increase " of only 279 in the 10 years 1936–46, and of only 561 in the five years 1946–51. But Leitrim so far from being able to provide a living for this tiny natural increase, had a net emigration of 6,596 in 1936–46, and 3,943 in 1946–51. What measures can be taken in such a county to absorb that number ? Is not the emigration, 18.7 per 1,000 per annum in 1946–51, merely a sign that the present economy of Leitrim cannot support anything like its present population at the standard of living its young adult men and women feel they have a right to. It may be argued that the production of wealth could be increased : that the land could be made yield more and better quality ; that live-stock could be improved. But it is more than doubtful whether the low productivity of Leitrim is due to want of man-hours of labour. With more capital in the way of buildings, machinery, fertilisers, and more beasts to consume the increased produce from the land, the productivity might be raised very greatly *without increasing the labour force at all, indeed, even with a reduced labour force.* Manufacturing industry using imported fuel and raw materials might give a certain amount of employment. But even two or three factories employing 200 men each, would not go far towards solving the problem. If the net emigration was to be halved, it would mean absorbing nearly 500 persons *each year*—say 250 jobs for 250 young men, who would marry the otherwise emigrating young

women. But this might be possible for one or two years : but then the " natural increase " would begin to grow and the problem would return.

Leitrim has a low marriage rate even for Ireland, of 4.72 only 82% of the Twenty Six Counties rate : and it has an abnormally low birth rate, the lowest in the country, 16.9 ; it has one of the highest death rates, 15.3, and still the highest net emigration rate.

V

The population of the City and County of Cork fell by 2,384 in the five year period 1946–51 : and as the same area had a " natural increase " of 10,800 in the five years, the net emigration for the area was 13,184. This figure is by far the largest for any of the Twenty-Six Counties, the next largest being Galway with a net emigration (1946–51) of 12,192. It is an average annual net emigration of 2,637—slightly higher than the average annual net emigration for the previous twenty years (1926–46) which was 2,555. In the 25 years from 1926 to 1951, Cork (city and county together) lost nearly 64,300 persons by emigration from the area—an annual average of 2,570.

As a rate per 1,000 of population per annum, the figure for Cork is one of the lowest in the country, only 7.9. The absolute figures are so large because Cork is a very large county with a large population. Moreover, the actual fall in population in the five year period was relatively small, 2,384—an annual average of 475. In the period 1926-36, the fall was 10,250, an annual average of 1,025 : in 1936–46, the fall was 12,250, an annual average of 1,225. From the latest figures it would seem that Cork is approaching a position in which its population will remain relatively stable at about 340,000. Net emigration from the area will probably continue at a large figure, the equivalent of the " natural increase ", which in 1946–51 was 10,800, an annual average of 2,160. This was a much larger annual " natural increase " than in former years : in 1926–36, it was 1,536, and in 1936–46, 1,366 : not a sign of a dying or vanishing race.

But to take the total figures for such a large area including—at one and the same time such diverse features as a large city, a most fertile belt of land, and a " Congested Districts County[1] "—is to conceal the main features of the population problems of the area. The county borough or city of Cork itself is, for instance, an emigrating centre : its population fell in the five years (1946–51) by 1,028 persons, and consequently it *lost* in population this number of persons plus a further number equivalent

[1] The four rural districts of Bantry, Castletown, Schull and Skibbereen formed one " Congested Districts County " under the Land Act, 1909.

to its " natural increase " in the same period, namely, 3,873—a total loss of 4,900. But this account of the matter is quite misleading as anyone who knows modern Cork will realize. What has happened is that the re-housing policy and programmes have caused people to leave the area of the legal county borough and to settle in the suburbs. The suburbs in the north of the city have increased by 6.6% in the five years and now contain 9,835 persons, those in the south have increased by 20% and now contain 27,607 persons. Hence, the most realistic analysis of the population of Cork would begin by dividing off the legal city itself, together with the Cork Rural District, into one unit and the rest of the county into a second unit. This first new unit had a population of 134,300 in 1946, and 139,000 in 1951—an increase of 4,700. But this increase is considerably less than the " natural increase " of the new unit in the same period, which must have been about 5,500 or 6,000. So that the whole area remained an " emigrating centre to the extent of (a rough estimate) about 150 persons each year. This problem is, at least, manageable—it means that the economy of the area would have to provide some 70 or 80 new jobs each year. But such an urban area should, in a vigorous and healthy economy, be able to absorb, in addition to its own " natural increase " a fair proportion of the normal emigration from the rural districts of the county.

The rest of County Cork is divided up into nine Urban Districts and the other sixteen Rural Districts (omitting the one adjacent to the city, known as the " Cork Rural District "). Of the nine urban districts, three showed trifling increases, Mallow showed a relatively large increase, and the other five trifling falls. Taken together there does not seem to have been much net emigration, the losses of some being more than made up by the gains of others. In every case, it is interesting to note, there was a great excess of females over males in these urban districts.

A very different picture is presented by the Rural Districts. The total population of the sixteen[1] under consideration was, in 1946, something like 177,000 : in 1951, it had fallen to 170,000—a net fall of 7,000. This figure must be taken with the " natural increase " of something like 4,500 or 5,000 to discover the net emigration—11,500 or an annual average of 2,300. All, with one exception, Mitchelstown, decreased in population. Castletown decreased by 12.2%, Schull by 8%, Skibbereen by 6.4% and Bantry by 6.3%. To these four " congested districts ", may be added Clonakilty, which decreased by 5.0%. In every one of these districts there was a marked excess of males over females : in Fermoy, for instance, there were 6,751 males and 5,672 females, an excess of 1,079 in that small population, nearly 1,160 males for every 1,000 females.

The age pattern of the aggregate rural districts (the whole 17) of

[1] Omitting, that is, Cork Rural Districts as really being part of an urban area.

Co. Cork displays another important aspect of the population problem. The following table shows the history of these areas over the last 25 years :

Aggregate Rural Areas (Cork)

Age Group	1926	1936	1946	1951
		Males		
0–14	33,934	27,329	25,990	24,741
15–44	51,925	49,543	46,477	40,209
45–64, 65 & over	35,129	35,366	34,845	32,720
		Females		
0–14	32,387	26,266	24,698	23,481
15–44	48,598	42,282	39,159	33,249
45–64, 65 & over	32,337	31,865	32,269	29,828

The total fall in population seems to have been spread evenly over the younger age groups, but the older group, 45 and over, has not fallen proportionately. The number of children aged 0–14 years fell by over 18,000 in the 25 years : the number of those aged 15 to 44 fell by 27,000 (males by 12,000, females by 15,000). The ratios between the age groups have changed also. For the males the 45 and over group was, in 1951, as 10 is to 20 when compared with the 44 and under group : in 1926 it was as 10 is to 25. For the females, the 45 and over group was in 1951 as 10 is to 19 when compared with 44 and under group : in 1926 it was as 10 is to 25. In other words, there were in 1951 proportionately more older people in these districts than in 1926.

Edward J. Coyne

Some Reflections on Irish Population Questions[1]

by R. C. GEARY

I WOULD like to address myself to a *critique* of the generally accepted attitudes of the Irish public towards the main aspects of Irish demography. With deliberate oversimplification I shall assume that these attitudes are :—

(i) that emigration is an evil ;
(ii) that rural depopulation has gone too far and the trend must be reversed ;
(iii) that Dublin is too big ;
(iv) that the marriage rate is too low and the age at marriage too late.

I shall not say that these four propositions are wrong. My devil's advocacy will be a qualified one. My object is simply to draw attention to some of the difficulties (largely grounded in statistics) about accepting the popular views as I have stated them. I realize that in this domain national instincts and feelings are important—*le cœur a ses raisons*—but it may be well to try to narrow the gap between accepted doctrine on the one hand and the facts and trains of argument based on them, on the other.

Emigration

First, a few facts about emigration. Since the Famine net emigration (or the excess of the number of emigrants over the number of immigrants and returned emigrants) from All Ireland has amounted to about 6 million and from the Twenty-six Counties to about 5 million. From just before the Famine to 1911 the population of All Ireland declined from $8\frac{1}{2}$ million to $4\frac{1}{4}$ million. Since 1911 the population has been practically stationary. The halving of the population between 1845 and 1911 and its stability since has been due entirely to emigration. In fact the change in population between any two dates is the difference between natural increase (or the excess of the number of births over the number of deaths) and net emigration. Except during the Famine period Ireland has always had a positive natural increase. As a result of the increase in the birth rate since prewar and the very substantial decline in the death rate, the rate of natural increase during the past few years has been higher than at

[1] Contribution to a Symposium on " The Irish Population Problem " in the Gresham Hotel, Dublin, on 9 May 1954.

any time since 1880. Yet the rate of net emigration during the five intercensal years 1946–51 was equivalent to about 8 per thousand population per annum, substantially higher than in the three previous intercensal periods[1]. Perhaps the most remarkable fact in Irish demography during the past forty years has been the stability of the population despite the fact that in the different intercensal periods the natural increase has varied considerably. We may well ask ourselves if there is not something inevitable and invariable about the present level of the population ; whether the natural increase, however large, will not always be skimmed off by emigration.

So much for the bare bones of the problem. It is obvious that the population trend since the Famine is a direct result of that frightful catastrophe. Other countries with as grievous a political history as Ireland's have greatly increased in population during the past hundred years. Were it not for the Famine it is a safe surmise that the population now would be about 10-15 million, but most contemporary observers agreed that before the Famine the standard of living of the population was the lowest in Europe, and there is no reason to think that the relative position now of the 10–15 million which I have postulated would have been very different. The precarious dependence on the potato with intermittent crop failures (as in the early nineteenth century) would probably continue, if with diminishing force. So would the condition of chronic lack of capital for development : Ireland with few natural resources would have fared no better than she has done in the capital market in competition with Britain and territories overseas. As it is, the average standard of living of our actual $4\frac{1}{4}$ million in Ireland is well up to the European average (not much below that of France, Germany and the Netherlands, if it is only half that of Britain, Sweden and Switzerland).

But devil's advocacy for emigration does not end here. Persons of the Irish race (which I define as the number of persons of Irish birth together with the descendants of all emigrants since the Famine living everywhere) may now number about 15–20 million. Having regard to the countries (principally the United States and Britain) to which our people emigrated, it is a safe inference that the average standard of living of this 15–20 million is much higher than that of the home country, and your guess is as good as mine as to how many times greater the standard is than what it would have been amongst the 10–15 million population I have surmised, if there had been no Famine.

Even the familiar statement " Emigration is due to lack of economic development at home " is subject to all kinds of qualifications. It has proved exceptionally difficult to establish any relation between the volume of emigration and the economic level and trend in Ireland. It seems

[1] When due allowance is made for the exceptional migration during the period 1911–26, due to the 1914–18 war and the change of government.

almost as if emigration were a thing apart, itself a separate division of the Irish economy. Many years ago in a paper[1] read before the Statistical Society the speaker showed that between 1881 and 1911, during which cattle increased by 21 per cent and rural population declined by 25 per cent, there was no perceptible relation between these phenomena : the percentage rural population decline was much the same in areas in which cattle increased most as in areas in which they increased least : the validity of the popular saying " The Bullock drove the People from the Land " is, to say the least, doubtful. Nor was there any discernable relation between the decline in rural population and the decline in the area under tillage during the same period. Over the past 100 years one of the most remarkable features of Irish demography is the uniformity of the decline in rural population in different parts of the country, including the Six Counties. Some greater force than the internal economic situation was impelling this great exodus during the post-Famine period. Over the past quarter century employment in industrial production in Ireland has doubled without any perceptible effect on the volume of migration. During the intercensal period 1946–1951 Ireland reached a higher level of industrial development than ever before in her history, and it was a period of rapid expansion as well, yet, as already observed, the net emigration rate was as high as in the intercensal decade 1901–11 and far higher than in the inter-war decade 1926–36. Also during the years 1946–51, net *immigration* into Dublin City and County, the only county area of net immigration in the State, in which half the non-agricultural economic activity is concentrated, amounted to 18,000, which is but little over one-eighth of the net emigration of 138,000 from the remaining twenty-five counties. Non-agricultural economic development (which will certainly increase) would have to be on a greatly increased scale to absorb even half this great rural surplus. Ireland's capital resources are rather small but, even if the capital were forthcoming to absorb the surplus population of 30,000 each year, most of the increased production would have to be exported at competitive prices since the home market is too small. Fortunately, there seems great scope for enhanced production and exports of agricultural produce at, probably, a much better return per £1 of capital invested than in non-agriculture, and agricultural exports would be less likely to encounter trade restrictions in importing countries than non-agricultural exports. Unfortunately, increased agricultural production holds no favourable prospect of increasing the agricultural population since, by modern European standards, greater production is possible on Irish farms with the existing, or even lower, labour force. And, as it is, mechanization is rapidly increasing on Irish

[1] *Statistical and Social Inquiry Society of Ireland.* " The Future Population of Saorstát Éireann and Some Observations on Population Statistics." [November 1935].

farms, as the statistics of e.g., tractors, milking machines, harvesters and motor vehicles show. The sharp decline in the post-war period in the agricultural working population seems likely to continue. It is significant that between 1946 and 1951 the average decline of 2.6 per cent per annum was not much greater than that for Denmark and not exceptional generally. The steep post-war decline in the agricultural population is a world phenomenon. Increased agricultural incomes will, however, tend to increase the populations of the smaller towns and villages, through jobs created by farmers' expenditure. Between 1938 and 1952 the sum in cash available to farmers and their families for personal expenditure and savings increased from the very low estimate of £17 million to £75 million.

While emigration has beyond question increased the material prosperity of the Irish race, it has had undesirable effects at home. I shall have to be content merely to summarize some of these :

(i) It prevents the population from increasing ; a small stationary population is a deterrent to economic development.

(ii) It results in an age distribution characterized by too low a proportion of the population in the young adult age group which, conventionally, may be taken as 15–44 ; and it results in too high a proportion of elderly persons. The burden of dependency is increased thereby. As regards the proportion of elderly persons however, many countries are now approaching Ireland's percentage, which was exceptionally high up to a quarter of a century ago. The aged are a world problem.

(iii) It leads to social disintegration and a sundering of family ties, though the latter aspect is mitigated to a great extent by the fact that, since 1930, by far the greater proportion of migrants go to Britain instead of overseas as previously. Actually there is a considerable movement between jobs in Ireland and Britain and a large proportion of the great number of visitors to Ireland each year consist of Irish-born persons holidaying with their relatives. The extent of social disintegration may be most vividly seen in the fact that, on the experience of 1946–51, of every 100 boys and girls in the State at age 14 and who survive to age 50, only about 60 will be residing here at age 50 : the remaining 40 will have emigrated. Of the 60, many will have sojourned abroad and many others will have considered emigration at some period in their lives. Unsettlement results, and this is probably a cause contributory to, for example, the low marriage rate.

Emigration is no new thing for the Irish. From time immemorial we have been a great migratory people : St Columbanus and St Gall were

amongst our illustrious emigrants. The propensity of the Irish to migrate has been noted by European scholars down the ages : Strabo in the ninth century, referring to Sedulius Scotus, spoke of " the Irish fashion of going away ". It has been authoritatively estimated that, in the sixty-five years before the Famine, emigration from All Ireland was 1 ¾ million, equivalent to 27,000 per annum, which is of the same order of magnitude of emigration in recent years. A century and a half ago, however, this emigration was from a much larger total population and was not so great as to prevent a substantial increase in population. Emigration has given Ireland an international prestige out of all proportion to the population of the Mother Country. Migration seems to be one of our most ingrained national instincts.

There are no ethical implications in emigration as such. No serious body of opinion in Ireland considers that there should be an embargo on emigration (except in periods when the survival of the nation is threatened) because we consider the right of the individual to sell his labour where he wills as inalienable. It is part of the individual freedom which we enjoy. The freedom of the individual transcends the interest of the State or even what the State considers the individual's own best interest. You may be comforted to know that, to make this freedom doubly sure, an embargo would be impossible to administer unless our few zealots think that they could institute a control over each of the 5 million passenger journeys into, and 5 million passenger journeys out of, the State each year. Migrants to and fro are only one per cent of the total of 10 million. Even with a rigid frontier control it would be impossible to prevent migration, without practically stopping the huge passenger movement.

Perhaps I have said enough to suggest that it is high time that the Irish people examined the validity of their traditional attitude toward emigration. This attitude is largely an inheritance from the long period of the struggle for independence. It was then an effective political argument. It had, in addition, some justification on economic and sociological grounds since emigration during the latter half of the nineteenth century was the sole cause of the continuing decline in population. In those days the view was tenable that the survival of the nation was endangered. It is quite otherwise today. It is reasonable and proper to aspire to a reduction in emigration ; it is quite another matter to regard all emigration as bad. At the present time the natural increase is about 28,000 per annum (about twice as high as pre-war). This means that, provided net emigration is less than 28,000 a year, the population will increase. There are the soundest economic and sociological reasons, to say nothing of the national instinct, in aspiring for an increasing population, provided that this increase is autonomous, that is, that it is not imposed by force, internal or external. In my opinion, indeed, the best test of the success of the national economic policy is that it induces an

increase in population. Taking the realistic view, however, any increase in population during the next few decades is not likely to be large.

In the public mind the emphasis should be transferred from emigration to population. I do not think that the transition will be difficult. The condemnation of emigration is vocal but it does not cut very deep. At any rate, few individuals seem to regard it as of personal application, that it is their patriotic duty to work in Ireland at whatever sacrifice to themselves. There is no good reason why the nation should have a kind of guilt complex about the fact of emigration. To condemn emigration in principle and to accept it in practice savours not a little of hypocrisy.

From the population point of view we have not done too badly during the thirty years of self-government, in which so few of these thirty years were propitious for economic development. The decline of the previous seventy years has been arrested. The Catholic population, at present 94 per cent of the total, recorded an increase at the Census of 1936 and 1946. The statistics of religions were not collected at the Census of 1951 but, since the total population increased as compared with 1946, it is a safe inference that the Catholic population also increased. One of the really serious features of the Irish population situation is the continuing decrease of members in other religious denominations. Their numbers are small but the declines have been so substantial as to prevent a small but continuous rise in the total population. Between 1926 and 1946 the numbers in other religious denominations declined by nearly a quarter. They have, as compared with the Catholic population, a far higher emigration rate, an even lower marriage rate—though the Irish marriage rate is one of the lowest in the world—and a fertility rate, or births per marriage, which is only two-thirds of that of Catholics.

Emigration is a fact, a gigantic fact. It is neither " good " nor " bad ": these terms are almost meaningless in their application to it. The only thing we can do about a fact of this kind is to make the best of it.

Decline in Rural Population

I have time to deal only very briefly with the three remaining aspects which I mentioned at the outset. When I speak of the rural population I mean the population living outside towns with populations of 1,500 or over. In 1951 the rural population of the State was less than one-third of the corresponding pre-Famine rural population, as shown by the great Census of 1841. Since 1926 it has declined by about one-eighth, at an increased rate in the last intercensal period 1946–51 as compared with the two previous decades. The rural population, which formed 83 per cent of the total population in 1841, had fallen to 66 per cent in 1926 and further to 59 per cent in 1951. Though the trend in the total

population was so different from that of all other countries during the past century, it is interesting to observe that the trend in these proportions (of rural population to total population) in Ireland was fairly typical of what was happening the world over.

In Ireland (and probably in other countries as well) the reason for the migration from rural areas is fundamentally economic. Earnings are greater in the town than in country parts. The average minimum agricultural wage rate is about 85/– per week compared with the rate for unskilled labour of about 135/– in Dublin, and the average earnings per worker in cash and kind of small farmers and members of their families assisting in farm work is probably lower on the western seaboard than the minimum agricultural wage rate. The disparity between town and rural earnings has lessened considerably since before the war. At present the average weekly minimum agricultural wage rate is equivalent to over 60 per cent of the Dublin unskilled rate as compared with 45 per cent in 1939. The spread of communications through press, cinema and radio in this and other countries is probably exacerbating the drift from the land and leading thereby towards a closer equality of town and rural earnings. In Ireland, lack of capital for agriculture in the nineteenth century, high rents and insecurity of land tenure, and perhaps the fact that the climate has imposed a pastoral pattern on farming has meant that the gross volume of agricultural output has not changed much over a long term of years. It has been estimated that between the 1840's and the 1860's there was little change in gross agricultural output but, since then, volume has increased by about a quarter. There has always been a great surplus of manpower on Irish farms (though this surplus has decreased considerably in recent years) and this has meant that the fewer people on the land the more there was to go around amongst those who stayed. There has clearly been a quality of inevitability about the whole process and the end is not yet.

The inquiry into social amenities at the 1946 Census of Population (the water supply of households, etc.) gave an exact measure of what was already well known, namely that amenities are incomparably better in towns than in the country. Life in the country is not the idyll it sometimes seems to townsfolk on a fine summer day. Rural electrification will greatly improve the sum total of amenities but, in the speaker's opinion, the improvement in the level of social amenities, while it will make country life more pleasant, especially for women, will not act as a major influence in arresting the drift to the towns, in this country or abroad. The fundamental cause is economic, and this force is acting even more strongly at the present than in the past. And there is nothing irrational about it.

The Growth of Dublin

The marked contrast in the trend of the population of the city and its environs to the trend in the rest of the country has led to a strong feeling that Dublin should share its increase with the rest of the country. There is some justification for this view. Possibly something could be done to disperse sections of government departments to other towns, but the global effect on the town population outside Dublin would be inconsiderable. The growth of Dublin has been due for the greater part to economic causes, though it is pertinent to observe that the percentage increase in industrialization during the past twenty-five years has been no greater in Dublin than in the rest of the country. There is clearly a limit to the suasion which can be brought to bear on industrialists, who are risking their own or their shareholders' capital, on where their factories are to be located.

In any case the increase in the population of Dublin during the past century has been far less than that of cities of comparable size throughout the world, though the increase during the past twenty-five years has been about normal. The fact that in the capital and its suburbs one-fifth of the total population of the State is concentrated is not very exceptional. The population of Copenhagen, for example, is nearly a million, or more than one-fifth of the population of Denmark, and the Netherlands "triangle" of Amsterdam-Hague-Rotterdam contains one-fifth of the population of that country. That a situation obtains in other countries does not make it acceptable here but the comparison does show that the problem, if it be really a problem, is not confined to Ireland. Is there not something a little irrational about people deploring the growth of the only part of the country which has shown itself capable of expanding its population and at the same time (very properly) regretting the fact that the total population of the State has not increased? It is reasonable to assume that, if the population of the State is to increase in future, the population of the Dublin conurbation must increase very considerably for it will probably have to bear the main brunt of a further decline in rural population.

The principal reason for the widely-held doctrine that the countryside is a better place to live in than cities—though here again there is a marked disparity between precept and practice—is probably that life in the country is healthier than in towns. This was overwhelmingly true fifty years ago but since then the disparity has been narrowing rapidly. In 1951 the average expectation of life at birth in urban areas was about $64\frac{1}{2}$ years compared with 66 years in the whole State, so that the urban figure was less than the average by some $1\frac{1}{2}$ years. The excess was, however, much greater fifteen years before: in 1936 it was 4 years. It is fairly certain that in ten years or so from now the difference will have vanished entirely.

Or the argument sometimes takes the form that country districts " constitute the chief well springs of population ". This is certainly not true about Ireland. The Dublin birth rate and marriage rate are higher and the crude death rate lower than in rural Ireland, and, despite the considerable immigration of young women, many of whom remain unmarried for some years after their arrival, the net reproduction rate for Dublin is about unity, showing that the population is reproducing itself without immigration.

One sometimes hears the fact that there are so few Dublin dwellers, all of whose forbears for a number of generations were also Dublin dwellers, adduced as an argument in support of the thesis that the city population would die out if there were not a continual rural influx. This fact has no relevance at all to the belief in question. About seven out of ten of the inhabitants of Dublin were born in the city, a proportion which has been unaltered for some generations. If we assume that there is no marked proclivity for the native Dubliners to marry native Dubliners or for immigrants from rural areas to intermarry, and ignore also any complications which might be caused by selective emigration from Dublin, we can compute that only about one in four of the children born in Dublin have four Dublin-born grandparents and only about one in seventeen of them have eight Dublin-born great-grandparents. The reason why so few of us Dubliners have Dublin ancestors is not biological but simple arithmetic.

The Low Marriage Rate and the Late Age at Marriage

The Irish marriage rate of 5.3 per thousand population per annum is one of the lowest in the world. One-quarter of the population never marry. The low marriage rate is our most serious population problem. But even this serious problem has to be set in its right statistical perspective. In every country the marriage rate, as one might expect because marriage is one of the deepest human instincts, is one of the most stable of statistics though it tends to fluctuate somewhat with the economic trend. The low marriage rate is clearly a heritage of the Famine. In the early 1840's the rate was 7–8 per thousand per year, not very different from the European average then or now. The compulsory registration of vital statistics started in 1864 : in the years 1864–1870 the rate was only 5.1 and even receded to 4.0 in the decade 1881–90. There has therefore been a significant improvement since then. The improvement will continue probably with increased urbanization since the marriage rate in urban areas is higher than in rural areas, but the improvement will be slow.

It is true that the average age at marriage is somewhat higher in Ireland than in most countries but this aspect of the marriage problem is much less important than the fact that so many of our people do not

marry at all. In 1945–46 it averaged 33.1 years for husbands and 28.0 for wives compared with 29.7 and 26.6 respectively in England and Wales. The difference is due largely to the later age at marriage in rural areas. In town areas the average ages were 30.9 for husbands and 27.1 for wives. In rural Ireland the average age at marriage of men is 34.7 and of women 28.7. The 1946 Census also laid to rest the ancient myth that the typical rural romance was between Romeo aged 70 and Juliet aged 17. Actually the proportion of marriages in which the groom was 20 years or more older than the bride in rural Ireland was but 4.4 per cent. During the twenty years 1926 to 1946 the average age at marriage has declined by nearly two years in the case of husbands and over a year for wives. The difference between Ireland and England and Wales in the ages of husbands at marriage, which was nearly 6 years in 1926, is now something over 3 years.

Conclusion

There is very little we can do directly to effect the trend in population. If I might suggest a slogan : " Take care of the economy and the population will take care of itself ". Let us not be too depressed about the showing of some of our population statistics. A guardedly optimistic view can be taken when we look at all the statistics together. A life-time study of Irish statistics of all kinds has induced in one observer a profound respect for the intelligence (and not merely the intelligibility) of the reactions of the Irish people to their environment. We will do well to remember that population consists of individual people and that people are infinitely more than units in tables of statistics. This observation may seem obvious but it does require emphasis in this, the Statistical Age, because aspects of human life and human activities which cannot be measured by statistics tend to be overlooked. I have always suspected that the Irishman is strong in the qualities which cannot be expressed in statistical terms. The more awe-inspiring attributes of people cannot be measured by statistics, and one statistician, at any rate, fervently hopes that they will remain so.

R. C. Geary

The Dollar Problem Reviewed

by T. K. WHITAKER, M.SC. (ECON.)

THE transition from "crisis" to "problem" may occur rather quickly in economic as well as in political affairs. The dollar situation of the Western World since the end of the war has undergone such a change; indeed, the question is being asked, prematurely perhaps, whether even a problem remains. The familiar term "the dollar gap" is now too indicative of an attitude to be used in any discussion of the matter which purports to be objective. As the purpose of this article is to survey the present state of fact and opinion, it is right to focus attention at the outset on the conflict between the belief, still widespread, that dollar shortage is a permanent evil and the more optimistic, and growing, view that it is (or was) merely a passing anxiety. The difference of attitude may be illustrated by setting alongside the Federal Reserve Board comment that the "so-called dollar gap is not an entirely intractable problem",[1] Professor Sir Dennis Robertson's contemporary plea for recognition "that there *is* a specific *dollar*-problem, the vehicle of persistent or at least recurrent pressures on Britain and some other nations, and not completely soluble by some once-for-all act of adjustment, classical or non-classical".[2]

The debate may be said to centre on the question whether it is inevitable, or indeed possible, for the supply of dollars to be continuously deficient in relation to the effective demand of the outside world for dollar goods and services. Even this rough and ready statement of the problem conveys a hint of the grounds of controversy—which can arise either from different expectations of the course of American imports, investment and other forms of external spending or from divergent opinions about the future level of effective demand by the rest of the world for dollar goods and services. In simpler terms, if the demand for dollars exceeds the supply at a given price, the explanation may be either that the demand is too big or that the supply is too small or that the price is wrong. But as to which is the true explanation there can be endless dispute.

Above the conflict of argument there appears to be a common recognition that the level at which, and the freedom with which, a balance is attained between the dollar and the non-dollar world are of great importance, politically as well as economically. It is also agreed that no solution of the dollar problem can be regarded with favour which depends on a drastic reduction of the international flow of goods and

[1] *Federal Reserve Bulletin*, October 1953, p. 1043.
[2] *Economic Journal*, December 1953, p. 851.

services or an unduly oppressive enforcement of dollar abstinence by means of import restrictions, exchange controls or currency depreciations. But before solutions can be discussed or arranged on any scale of preference, the size and nature of the problem—if there be a problem—must first be passed under review.

No measurement of the " dollar gap " is possible unless we understand what the term means. It has been said that " in discussions of the equivocal ' dollar shortage ' we should insist on full identification of the concept implied. We may then discover that many of the existing differences of opinion—in the diagnosis of as well as in the therapy for concrete cases—can be easily resolved and the rest can be reduced to questions of unknown fact or of irreconcilable political philosophy ".[1] Professor Machlup has drawn a useful distinction between a " programme ", an " accounting " and a " market " deficit in a country's balance of payments. Without going into refinements, a " *programme* " balance is one that expresses needs or desires for dollar goods and services even if these desires are not effectively supported by a readiness to surrender domestic purchasing power at the existing rate of exchange ; and although it is not without historical significance, a deficit in this sense may be dismissed as an attempt to apply on the international plane the principle of " to each according to his need ". The *accounting* balance is a record of the flow and counterflow of payments between the dollar area and the rest of the world and reveals how rather than why the final equality was reached between receipts and payments. A dollar deficit in the " market " sense is " an excess of dollar amounts effectively demanded at the given exchange rate by would-be purchasers (who are not restricted by specially adopted or discretionary government control measures) over the dollar amounts supplied at the exchange rate by would-be sellers (who are not motivated by a desire to support the exchange rate)."[2] The overt signs of a genuine dollar shortage are, therefore, the existence of restrictive controls on dollar spending which are especially designed to protect the exchanges or the necessity for unplanned use of gold and dollar reserves or recourse to foreign borrowing in order to cover an excess of dollar expenditure.

So much confusion has been generated in discussions of " gaps " and " deficits " that the International Monetary Fund found it necessary a few years ago to emphasize the truism that a deficit in the balance of payments can *exist* only if and in so far as it is *financed*. In other words, it is impossible for the United States to have a surplus on current account in its balance of payments with the rest of the world unless the corresponding deficit of the rest of the world is being financed in some way or other.

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[1] " Three Concepts of the Balance of Payments and the so-called Dollar Shortage " by Professor Fritz Machlup, *Economic Journal*, March, 1950.

[2] Machlup, *op. cit.*

By a surplus or deficit on current account is meant a surplus or deficit arising out of dealings in goods and services as distinct from capital transactions. So long as a deficit on current account is being financed by such means as United States long-term investment abroad or United States aid for economic or military purposes, no immediate strain is put on the gold and dollar resources of the outside world and no real dollar problem exists. The problem does arise, however, if the outside world can finance the deficit only by repeated inroads into monetary reserves or unwilling resort to dollar borrowing or severe measures of dollar economy.

II

Much of the settled belief in the permanence of the dollar problem is due to the knowledge that a surplus on current account in the American balance of payments has now persisted for a very long time. Mr R. F. Harrod in a recent book[1] has drawn attention to the fact that for over three-quarters of a century the United States has had a substantial surplus on visible trade account. Even when all current transactions are brought into the picture, invisible as well as visible, the surplus is still of respectable antiquity.

In our historical retrospect we need go back no further than the end of the First World War. The period since then may be divided for convenience into three parts : the inter-war years, the war years and the post-war period. Over the whole period 1919 to 1939 the aggregate current surplus on the United States balance of payments was $14.5 billion, giving an annual average of under $700 million. Counting the net outward movement of long-term capital, as well as current payments for goods and services, as constituting the supply of dollars to the outside world during this 21-year span, the dollar shortage for the whole period amounted to roughly $10 billion and was financed entirely by transfers of gold to the United States. Within the period there were, of course, some great disturbances. During the most severe years of the depression (1929 to 1932), the dollars supplied to the world by United States purchases of foreign goods and services fell from almost $7 billion to less than $2½ billion. The conspicuous features of the period 1934 to 1938 were the massive inflow of gold to the United States, representing in the main a flight of capital from Europe, and, at the same time, the virtual disappearance of any American surplus on current account. The relief afforded by a substantial outflow of American capital in the 1920's was replaced in the 1930's by a net realization of American foreign

[1] *The Dollar* by R. F. Harrod, 1953, p. 34.

investments which accentuated the dollar shortage caused by the fear-inspired search of foreigners for the security of a balance in a United States bank.[1]

In the early years of the Second World War the Allied Countries drew heavily on their gold and dollar balances for payments in the United States. Lend-lease began in March, 1941, but did not get into its stride until 1942. At its peak in 1944 it averaged $1 billion a month, or four times as much as " cash " exports. From 1942 until the end of the war the combined effect of Lend-Lease and American war expenditure abroad was to enable foreign countries to strengthen their gold and dollar balances. The accretion to their monetary reserves in these later years of the war was not, however, sufficient to offset the losses of gold and dollars prior to the inauguration of Lend-Lease.

The concept of a " market " balance of payments explained earlier has no relation whatever to the position in the immediate post-war years when the United States, as the great producer and provider, came to the rescue of a devastated and impoverished Europe. The surpluses in these years on the current account of the United States balance of payments reflected not an *effective* demand by European and other countries for the essential commodities which only the United States was then able to supply but an urgent need first for relief and then for reconstruction and restocking which they were quite unable to back with any acceptable means of payment. Indeed, the United States surplus on current account of $11.3 billion in 1947 was greater than the value of all the gold held in reported monetary reserves outside the United States. These early post-war surpluses were financed by the United States itself through one form of aid or another. According as the worst ravages of the war were repaired in Europe, the emphasis shifted from relief to recovery. By Marshall Aid Europe was enabled to rebuild and increase its productive capacity while at the same time enjoying a higher living standard than pre-war. The world's dollar deficit was reduced to some $6 billion by 1949, which was fully covered by United States Government grants and credits. The effect of the devaluations of 1949 became merged in the more spectacular consequences of the Korean War, particularly the sudden outburst of expenditure by the United States on basic materials. The United States surplus was reduced to $2 billion in 1950 and, in fact, was substantially less than the amount of grants and credits provided by the American Government in that year, with the result that the monetary reserves of the outside world began to be replenished. The net export surplus of the United States rose to $5 billion in 1951 but

[1] The United States Balance of Payments in the period 1919–1939 is admirably surveyed in *The United States in the World Economy* published by the U.S. Department of Commerce in 1943. The period 1934–1939 is specially reviewed in A. I. Bloomfield's *Capital Imports and the American Balance of Payments*, 1934–39.

was covered by official financing in the form of military and economic aid. Since the middle of 1952, however, current account transactions between the United States and other countries have come very close to a balance. Capital movements and grants, although smaller than before, continue to provide more dollars than are needed to finance the surplus and in consequence foreign countries have increased their gold reserves and dollar holdings by some $4 billion over the past two years. It is true that if " extraordinary " expenditure by the United States for military purposes were excluded from the dollar income of Europe there would be a sizeable dollar deficit but it seems unrealistic to exclude an actual and, in all likelihood, a continuing receipt, particularly if no counter-allowance is made for the economic relief which Europe would derive from any general slackening of rearmament. It may reasonably be taken that, at the moment, there is no current surplus on the United States balance of payments and, consequently, that the rest of the world is not in deficit with the United States.[1] This is no mean achievement in relation to the desperate situation of 1947 ; the resilience of the non-dollar world, and of Europe in particular, is shown by the increase in dollar earnings in these few years by $8 billion. If the present situation were to continue there would, apparently, be no dollar problem and the difficulties of the past would prove to have been merely the product of exceptional and, in the long run, transitory circumstances.

It is, perhaps, too easy to be impressed by the catastrophic experiences of the past thirty years—under the stress of which the dollar problem has commanded attention—and to forget the times of comparative ease which an objective survey reveals. The period 1922–29 has been described as one of " uncertain balance "—but of balance nevertheless, on a rising scale of American expenditure abroad. Moreover, in the five years before the last war, apart from the critical twelve months of business recession between mid-1937 and mid-1938, there was no real shortage ; during three of these years, 1935 to 1937, the rest of the world was actually in surplus with the United States and on average over the period the dollar shortage was fully relieved by the outflow of long-term dollar capital. Reviewing the history of the past thirty years, it may be trite but it is scarcely inaccurate to say that the prescription for avoiding dollar shortage is simply to avoid wars and depressions. To the extent that these great evils are checked, the incidental problem of dollar shortage will be all the less troublesome.

III

It is partly this belief, strengthened by the close approach to a balance recently achieved, which accounts for a certain reluctance in the United

[1] See table on p. 212 of *Federal Reserve Bulletin* for March 1954.
[1] In *The United States in the World Economy* already cited.

States to accept unreservedly the necessity for special measures to increase or guarantee the world's supply of dollars. The post-war atmosphere of crisis has been dispelled by the recovery of European production and trade with the help of American gifts and loans ; the pressure of international responsibility on the United States in financial matters has eased ; and, short of war or slump, it does not seem impossible to maintain a tolerable relationship henceforth between the dollar and the non-dollar world.

This is not to say that the dollar has ceased to be a scarce currency. Few countries can yet supply their citizens freely with dollars in exchange for domestic currency. How much the potential demand for dollars is held in check by the restrictions which are so widespread throughout the world is virtually impossible to measure, but the obvious fear of many countries to give free rein even to current trade, without stronger reserves of gold and dollars behind them, suggests that it is still significant. It is natural that this matter should be discussed mainly in terms of the dollar-sterling relationship since sterling is a key currency which has for long been an international medium of exchange and in which roughly one-half of the world's trade is still conducted. The evidence is, however, that sterling has not yet regained strength enough to look the dollar in the face.

If the dollar problem still causes anxiety, as it undoubtedly does in Europe at any rate, the reason is not so much that the present degree of dollar scarcity is intolerable as that the future holds no certain prospect of easement but rather many risks of serious relapse. The main causes of anxiety may be discussed under three heads : the risk of an American recession ; the growing productive superiority of the United States ; and the ever-present threat of re-emergence of inflation in the non-dollar world.

Of these, the first is outstandingly the most important and for good reason. The havoc which an American depression or even a recession can wreak on the outside world has been demonstrated on several occasions during the past quarter of a century. The two-thirds reduction in American purchases abroad, which occurred during the Great Depression of 1929–32, was the external consequence of a disastrous 50% drop in American industrial output which obliterated incomes and jobs on an unprecedented scale. The less serious decline in business in 1937–38 brought about a fall in American imports of over one-third. Again, when industrial output declined in 1949—merely halting, however, the upward trend in the gross national product—total United States imports fell by 8%. The sterling area, as a supplier of raw materials and luxury goods, suffered on these occasions the severest impact of the fall in American imports and in 1949 the fall in dollar earnings resulting from the recession in the United States was one of the proximate causes of the devaluation

of sterling. In a statement in November 1953, on behalf of the International Monetary Fund, its Managing Director, Mr Ivar Rooth, estimated that even a 5% decline in the national production of the United States could result in a 15% reduction in total United States imports and a substantially larger reduction in United States imports of certain raw materials. Some economists have ventured even more gloomy assessments of the consequences than Mr Rooth, but they may have been unduly influenced by the 1949 experience. Earlier assessments were less pessimistic[1] and what has been happening in recent months shows how important is the state of confidence amongst American businessmen. There is, however, no escape from the conclusion that American imports are sensitive to changes in business activity in the United States. Such is the dominance of the United States in the world economy that a recession there, or even a halt in progress, may not merely dislocate the trade and payments of the rest of the world but also directly lower international prices and incomes. For these reasons, the world keeps an anxious eye on the state of activity in the United States and misgivings are immediately aroused by any ominous development such as the downward turn taken by the United States gross national product towards the end of 1953 and the significent rise in the number of unemployed.

The maintenance of prosperous conditions in the United States is the immediate interest and responsibility of the United States Government, a responsibility straightforwardly acknowledged by President Eisenhower in his State of the Union Message in January of this year in which he stressed that economic preparedness was fully as important as military preparedness and that the plans of his Administration included :

> flexible credit and debt management policies ; measures to stimulate consumer and business spending ; suitable lending, guaranteeing, insuring and grant-in-aid activities ; strengthened old age and unemployment insurance measures ; improved agricultural programmes ; public works plans laid well in advance ; enlarged opportunities for international trade and investment.

In relation to trade and investment, various suggestions have been made, some of which will be mentioned later, for sustaining the flow of dollars to the outside world at a time of recession and thus benefitting the United States itself by keeping its export trades active. The experience of the 1930's enjoins caution as to the complete and immediate efficacy of purely internal measures of combatting a depression and, for this reason alone, it would be wise to include in the armoury of " economic preparedness " devices intended to sustain a large and steady stream of trade and payments between the dollar area and the rest of the world.

[1] e.g. Keynes " The Balance of Payments of the United States ", *Economic Journal*, June 1946, p. 173 and estimates of income elasticity of U.S. imports quoted in Kindleberger *The Dollar Shortage*, 1950, pp. 39–40.

It will be necessary to revert to the desirability of stabilizing the American demand for imports but in the meantime we may turn to another source of trouble : the more rapid growth of productivity in the United States than in the rest of the world. The instability of American business is an occasional or cyclical cause of disturbance but the discrepancy in productivity has been described as a structural problem. Some economists have identified it as the basic cause of dollar shortage.[1] It is often loosely referred to as the capacity of American goods to undersell all other products in the markets of the world—as if the means of payment for American goods were infinite ! It has been represented that in an area with superior productivity " the reduction in costs, when translated into lower export prices, will exert an unremitting deflationary pressure on the rest of the world which can benefit from the low-priced exports only at the cost, first, of continuous downward adjustment of its own price levels (inimical to full employment) and secondly, of structural unemployment during the adaptations forced by concurrent changes in comparative advantage ".[2] In contrast with this gloomy and almost Luddite view of the consequences of increased productive efficiency we may set the optimism of Keynes who, in his posthumous article on the United States Balance of Payments, was confident that, as its productivity increased, the United States would become " a high-living, high-cost country beyond any previous experience " and that this would work towards the achievement of a balance with the non-dollar world. It is obvious that views differ as to the significance of this factor and it may, therefore, be well to review the factual information about productivity trends.

It has been estimated that productivity in the United States before the last war was more than twice as great as in the United Kingdom, measured either in terms of physical output per head or value of output per head.[3] This estimate relates to industrial productivity, as do most similar estimates, and the great disparity in industrial efficiency was not reflected in average income per head. Indeed, in 1939, owing to the smaller proportion of the population engaged in agriculture and the heavier concentration of workers in industries of high productivity, the national income per head in Britain was not far behind that of the United States.[4] It has been shown that the lines in which the United States has a particular advantage are either those which require heavy capital investment (as distinct from high labour content), such as capital goods

[1] See, for instance, Professor J. R. Hicks's article in *Oxford Economic Papers*, June 1953 ; Mrs Honor Croome *The Dollar Siege, Lloyd's Bank Review*, July 1950 ; Dr Balogh's *Dollar Crisis, Its Causes and Cure*, 1949 ; and Professor Sir D. Robertson's *Britain in the World Economy*, 1954.

[2] Mrs Honor Croome in the article cited above.

[3] L. Rostas " Industrial Production, Productivity and Distribution in Britain, Germany and the United States, 1935–1937 ", *Economic Journal*, April 1943.

[4] G. C. Allen " Economic Progress—Retrospect and Prospect ", *Economic Journal*, September 1950.

and durable consumer goods, or those in which intensive employment of land and capital is necessary, as with the major agricultural products now exported from the United States.

It would seem that the pre-War discrepancy in industrial productivity has since widened. Mr Graham Hutton, in his analysis of the reports of 66 British productivity teams which visited the United States in recent years, has shown that American industrial productivity per man hour is from two to five times that in Britain or Western Europe. Not many would share the optimism indicated by the title of Mr Hutton's work[1] as to the possibility, without extensive capital investment, of reducing the lead of the United States in efficiency of industrial production. Other commentators have noted the small proportion of the limited savings of Britain and other European countries which goes into industrial plant as distinct from public utilities and social capital of one kind or another. Complaints are widespread about the incidence of taxation on profits and the inadequacy of depreciation provisions at a time of rising replacement costs. Professor Robertson has queried " whether the weight and complexity of the social and administrative structure which British industry is expected to carry on its back has become too great ".[2] It is to be feared that, if the United States continues to lengthen its lead in comparative efficiency, this will force on the rest of the world a continuing process of adjustment for which, in general, the various national economies are not sufficiently flexible.

It is clear from the divergence of view already indicated that discussion of the economic implications of a disparity in productivity—and more particularly of a *growing* disparity—could lead only too easily into theoretical thickets out of which one would have to hack one's way with the aid of analytical implements unsuitable for display in a non-technical essay. One or two general points may, however, be made. The doctrine of " comparative costs " establishes the possibility of mutually advantageous trade between countries of the widest differences in resources and efficiency. Even absolute differences over the whole field of production are no barrier to trading relations of real advantage to both sides so long as there are differences in the comparative efficiency with which the two countries produce particular classes of goods. Where there are these differences in comparative efficiency, there is room for profitable concentration on production and trade in those things in which the more advanced country is relatively most efficient and the less developed country is at relatively the least disadvantage. Difficulties arise because of the natural resistance to accepting and making those changes in production and trade which correspond to the new alignment of comparative advantage brought about by a technological advance. The problems of adjustment are, of course, more pronounced when the

[1] *We Too Can Prosper*, 1953.
[2] *Op. cit.* p. 29.

divergence in productivity is not a once-for-all change but rather a continuous process.

Taking the long view, it would obviously be absurd to conclude that improvements in American efficiency are an unmitigated evil for the rest of the world. It is rarely, if ever, that any one country can preserve entirely for itself the fruits of an increase in its productivity. Some of the increased real income of its fortunate inhabitants will be spent on the products of other areas who will benefit at the same time from any reduction in the cost of their imports from the more efficient country. They will, of course, be exposed to the greater competitive power of its exports in the outside markets to which they send theirs as well as in their home market ; and their exports to the relatively efficient country may find the going hard at the old rate of exchange. The over-all effect will depend on the balance of various forces but, even if the exchanges of the weaker countries suffer so much that they have to resort to devaluation or deflation to restore equilibrium, it need not follow that thereby the real benefit is totally lost. Some help in understanding the position is given by the concept of purchasing-power parity which once occupied a larger place than it does nowadays in the theory of exchange rates. An improvement in productivity in any country tends to make the money of that country more valuable in terms of its goods and the old purchasing power parity between that country's currency and other currencies is, therefore, altered. It is not surprising that this change may at times necessitate an alteration of other countries' exchange rates as a means of avoiding balance of payments deficits and as an alternative to deflation.

Having skirted the theoretical thickets we may resume our survey, not deprived of faith in the doctrine of comparative advantage but at the same time conscious that the problem of adjustment to a more rapid rate of technological advance in the United States than elsewhere will be aggravated if the United States does not make certain of " cashing in " on its good fortune. The difficulty of adjustment will be eased if the United States allows its incomes to rise at least as fast as its efficiency increases. Ricardo showed that the more efficient country will have a higher wage, cost and price structure than the less efficient. This was the classical hypothesis on which Lord Keynes built in the article mentioned earlier and it is a hope that may not in the end be disappointed, despite the pessimistic belief of many observers that there is a persistent deflationary tendency in the United States as a result of over-saving. If more is consumed in the United States and less saved out of higher incomes, there will be a slowing down in the rate of capital investment and of technological progress. The problem of adjustment could also be eased by greater capital exports from the United States to the rest of the world, having the effect of raising efficiency and incomes there. It would, at any rate, be regrettable if, in an effort to avoid the trouble caused by

an increase in American efficiency, other countries were to shut themselves tightly within high-cost enclaves, protected against dollar competition by discriminatory import and exchange controls.

If a particular country cannot be held responsible for any awkwardness to others of its more rapid advance in income and wealth, neither can it be expected to suffer inflation in order to alleviate their difficulties of adjustment. American inflation has nevertheless provided fortuitous relief to the rest of the world for many years, offsetting to a considerable degree the strain produced by rising costs and lower efficiency in most other countries; in the future also inflation, dictated by internal policy, may have effects on the United States balance of payments of a helpful kind. The fact remains that it takes two to make a dollar shortage and that at times the situation may be more justifiably assessed as a surfeit of other currencies. At such times, the classical remedy is " to halt the inflation and change the exchange rate ". This injunction rests on the principle that there is always some exchange rate at which the demand and supply of dollars can be brought into equilibrium. In the early post-war years, however, many changes had to be made in the internal relationship between money and goods before a rate of exchange with the dollar which would be both tolerable and stable could be arranged. In the meantime the inflated demand at the old rate of exchange had to be prevented from causing excessive deficits in the balance of payments by import and exchange controls, rationing, credit restrictions, etc. As production in the non-dollar world recovered, as trading channels were re-opened, as budgetary gaps were narrowed and credit creation limited, the pressure of internal demand on the balance of payments was eased ; the exchange rates of most currencies were changed in 1949 in relation to the dollar ; and by 1950 inflation had been brought under control in most countries though not, of course, in all. Since then the rate of increase in production in the non-dollar world has slackened and the competitive demands of re-armament and social welfare continually threaten to upset such financial stability as has been achieved. Internal policies may help to create a dollar problem by expanding home consumption at the expense of exports and by raising domestic costs and so restricting the possibilities of economic expansion. The re-emergence of a surplus of pounds, francs, kroner, pesos, etc., for such reasons would give rise to dollar difficulty for which, at any rate, the Americans could not be blamed. The forces pushing in that direction in the world at large are very strong. Professor Nurkse has drawn attention to the intensity of the attraction exercised on poorer countries by the consumption standards of their richer neighbours and has commented that " it is much easier to adopt superior consumption habits than improved production methods " ;[1] and other economists believe that there is

[1] Nurkse, *Economic Development of Underdeveloped Countries*, 1953, p. 62.

a chronic inflationary tendency in under-developed economies. If the countries of the non-dollar world are to be absolved of responsibility for dollar shortage—or at any rate of contributory negligence—they must be able to establish that their over-all balance of payments is near enough to equilibrium to be maintained indefinitely without controls of an illiberal or discriminatory character. If unwanted deficits are being persistently incurred, not merely in relation to the dollar area but in external payments as a whole, this is a clear indication that the home demand for foreign currencies is too great at the existing rate of exchange ; and the remedy must be sought either by deflating that demand through monetary and fiscal measures or by a reduction of the exchange rate.

Both these remedies are unpopular and the decision between them can be made only in relation to the particular circumstances ; if the employment situation is very good, a tightening of money and credit may be the better choice whereas if unemployment is rife an adjustment of the exchange rate may be preferable. In either case, the remedy—if it is to be effective—must entail some reduction in former standards of consumption or investment. This is a basic condition of success which is seldom fully recognized or achieved. The experience of 1949 would suggest that further devaluation should not be resorted to by any country without a more careful assessment of the probability of its yielding the required improvement in the balance of payments. There has been adequate practical demonstration of the reduced effectiveness of devaluation in choking off imports where they are already held severely in check by import restrictions, exchange control and other official measures. There is also now a greater consciousness of the risk that the value of exports may not be much increased either because the home demand is too high or because the foreign demand is not very responsive to price reductions. The scope for price reductions may itself be quickly narrowed by a rise in domestic wages and other costs. Devaluation, therefore, is not to be lightly advised, even though it may in some cases be inevitable.

Nothing so far considered has dislodged the preeminence of instability in the United States economy as a cause of dollar shortage. In the nature of things this instability can never be finally removed ; it is, indeed, one of the marks of a progressive economy. The most that can be expected is prevention of the dreaded metamorphosis of prosperity into depression. It is well, therefore, to consider other means by which the dollar problem can be eased, in other words, the possibility of so increasing the supply of dollars to the world by greater American imports and long-term investments as to leave only war and depression as fundamental anxieties. We may distinguish between trade and investment, and under the former heading attempt to assess how purchases and sales of goods and services by the United States may develop as time goes on.

This is to enter on very speculative ground but the auguries on the whole are favourable. The Randall Commission[1] has estimated that the growth of population in the United States may, of itself, add 25% to American needs over the next fifteen years. To sustain a continued improvement in productivity and in general living standards higher imports of raw materials and finished goods will be needed. There appears to be little danger of the United States becoming more self-sufficient. The Paley Report[2] prophesied a doubling of American output by 1975 and a great increase in imports of various minerals and other products—though, incidentally, the major products of the Sterling Area were not listed amongst the most fortunate. Impediments to imports such as the United States tariff and customs formalities have, in recent years, been the subject of much controversy and their importance has, perhaps, been unduly magnified. The Randall Commission has repeated the argument that many United States tariffs are low and that more than half the imports of the United States enter free of duty. But, of course, more than half the imports of the United States are raw materials, and even American authorities have admitted that the United States tariff is highly selective and aimed exactly at keeping out those manufactures which are most efficiently produced abroad. It has been shown how the American tariff has offset Britain's comparative advantages in various lines though it is admitted that the sharpness of the impact has been blunted in recent years.[3] Customs' law and administration is often a greater impediment to imports than the tariff itself and there are other laws and practices which are agreed to be inconsistent with the present position of the United States as a creditor country. The policy of the United States Administration is directed towards lowering import barriers but it would be unsafe for many reasons to bank on more than a gradual and limited increase on this score in the total value of United States imports from abroad. This total will be determined more by the state of activity in the United States than by mere tariff or price considerations. Indeed, the response of the United States market to a reduction in the price of foreign manufactures may at times be less than to such factors as quality, distinctiveness and attractive presentation.

The dollar outlook depends not only on the course of American demand for foreign goods but also on the degree of dependence of the outside world on imports from the United States and on the terms of trade between the dollar and the non-dollar world. Increased production in non-dollar countries and an expansion of their trade, eastwards and westwards, would reduce their dependence on American supplies and their need for dollars. Mr Harrod has for years been pointing to the

[1] *Report of Commission on Foreign Economic Policy*, Washington, 23 January 1954.
[2] *Report of the President's Materials Policy Commission*, June 1952.
[3] G. D. A. MacDougall "British and American Exports: A study suggested by the theory of Comparative Costs", Part I, *Economic Journal*, December 1951.

dollars to be earned by ousting the United States from the markets of third countries. Important areas, including Latin America and Canada, have during the past forty years come more and more under the economic influence of the United States. In Latin America, for example, the United States is not only now the principal purchaser but also the principal supplier, having supplanted Europe in both respects. Since the last War these " third " countries have greatly increased their earning of dollars from exports to the United States but they have been spending these dollars back in the United States instead of using them to buy goods from their former suppliers in Europe. Whatever the reason, little progress has so far been made in the direction advocated by Mr Harrod. Canada offers, perhaps, the best prospects as a country with a growing population, rapidly expanding production and trade, and traditional ties, both political and economic, with Europe.

The terms of trade have moved against the United States even more than against Britain since 1938. The dominant movement since pre-war has been the greater increase in the prices of food and raw materials than in those of manufactured products. The United States, whose imports consist as to two-thirds of food and industrial raw materials and whose exports are mainly finished goods, has borne the full impact of this change. The price relationship between primary and manufactured products would be upset by a depression in the United States but, temporary interruptions apart, it is apparently still believed that the terms of trade will favour agricultural and other basic commodities for another decade or more.

Although the early post-war optimism about the scale of American tourist expenditure, to which Keynes gave a qualified assent in the article already mentioned, has not been fully justified, for Europe at least the increase in dollar income from this source has been substantial. A recent estimate shows that, excluding fares paid to American transport concerns, the net earnings of O.E.E.C. countries from American tourists is about one-eighth of the total value of their current imports from the United States. It is unquestionable that dollar receipts from tourism could be considerably increased—provided, of course, that prosperity continues to reign in the United States. There is also little doubt that foreigners could earn more dollars from shipping services if the United States gave somewhat less support, by way of subsidy and otherwise, to American shipping.

The promotion of a large and steady outflow of capital from the United States has claimed wide attention in recent years as an aid to the solution of the dollar problem but it is doubtful whether it can be relied upon for a major contribution. Private foreign investment by American interests is unlikely to be of the magnitude or stability required. It has hitherto been devoted mainly to the opening-up of new sources of oil, the exploitation of minerals and the development of primary production

abroad. In 1952–53 it was of the order of only $400 million. Not only is there less security risk in home investments but the yields are often much higher than on foreign investments. Canada, as a developing country, offers attractions to American investors but, apart from Canadian issues, there have been scarcely any publicly-offered issues of foreign securities in the United States in recent years. In general, the possibilities of American private investment abroad are extremely limited on account of the political and other risks which no amount of paper safeguards, legislative or otherwise, can hope to eliminate. Besides, changes of government, waves of nationalistic sentiment and other rational or irrational movements impair the prospects of even short-term investment.

A balanced policy of overseas investment by the world's greatest creditor nation should in principle include provision for basic utilities —power, irrigation, transport, houses—and for the slow processes of agricultural improvement and " not be confined to the sucking of petroleum and the tearing of metal out of the bowels of the earth."[1] This means Government investment, directly or indirectly, at a low rate of interest and with a large element of risk. Apart from loans under the Marshall Plan, and the Mutual Security programme, the International Bank for Reconstruction and Development has been the major channel of United States public investment abroad in recent years. So far, the average rate at which the Bank has been disbursing funds has been only some $200 million a year. Foreign investment by the United States has, indeed, been little more than sufficient to offset the repayment of principal on old loans. President Truman's statement of policy regarding aid for under-developed areas (" Point 4 ") aroused hope of a large-scale flow of capital to these areas which has so far not materialized. The Randall Report, indeed, suggests that " it need not and should not become a ' big money ' programme and should not involve capital investments " ; it is now being operated mainly as a programme of technical assistance. We are, on the whole, forced to a pessimistic conclusion as to the prospects of any marked expansion in American investment abroad, whether public or private.

In any case, external investment by the United States could not be expected to yield a permanent increase in the world supply of dollars since a capital-exporting country soon finds itself receiving investment earnings equivalent to, if not greater than, the current outflow of new capital. Moreover, an increase in American investment abroad affords no relief to dollar shortage if it merely leads to a further expansion of American exports in the form of capital goods. The Randall Commission unconsciously endorsed this point in the sentence : " United States investment abroad, public and private, provides additional markets for United State exports."

[1] Robertson, *op. cit.* p. 69.

V

Both foreign investment and tourist expenditure are intimately connected with the state of the American economy. They will expand when business is active and contract when prosperity wanes. Though they are important supplements to normal outlay on foreign goods and services, they are of limited significance at the best of times and cannot be depended on as a source of dollars in a crisis due to an American depression. At such a time they will dwindle to insignificance, thus accentuating the world shortage of dollars caused by the falling off in American purchases of raw materials and finished goods. The whole of this survey, indeed, serves to underline the critical importance of American prosperity not only for the United States itself but also for the world at large. The dollar, which has virtually supplanted gold as a world currency, cannot be other than scarce if it is to serve effectively as an international medium of exchange and store of value. But it should not be too scarce, nor should the world supply be exposed to erratic fluctuations. In order to increase that supply Mr Harrod has suggested a doubling of the dollar price of gold but the inevitable stimulus to inflation and the haphazard conferring of American aid on holders as well as producers of gold which this proposal would entail exclude it from practical politics. The core of the problem is the stabilization of American demand for foreign goods and services. American imports are sensitive to even a slight recession and most countries, because of their meagre reserves, are unable to maintain purchases from the United States in face of a drop in American purchases from them. These are the crucial facts and any means by which countries otherwise financially stable are helped to overcome a dollar shortage due to an American depression must benefit also the United States itself by keeping up sales, income and employment in its export industries. Various schemes of this nature have been propounded, some, like Keynes's proposal for a Clearing Union, involving new forms of international credit to tide worthy debtors over times of crisis, others relying on the extension of dollar credit at low interest rates by institutions such as the International Monetary Fund and the Federal Reserve Board. A comprehensive set of proposals was put forward by a group of experts in a report to the United Nations in 1949.[1] Less attention has, however, been given to this fundamental aspect of the dollar problem than to such peripheral matters as the lowering of tariff barriers, the easing of customs' administration, the expansion of foreign investment and "good creditor" policies generally. It seems appropriate that it should be raised to a higher place on the agenda of world statesmanship.

T. K. Whitaker

[1] "National and International Measures for Full Employment", United Nations, Dec. 1949, pp. 94–99.

Johann Kaspar Zeuss[1]

by FRANCIS SHAW, S.J.

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IT must be rare for a nation to owe as much to one man as the Irish people owes to Johann Kaspar Zeuss. Ingratitude is an unpleasant quality and should not be lightly imputed. The centenary year of *Grammatica Celtica* has just passed with but little tribute to the author's memory[2]. It may be as well that is should be so, for Zeuss, an intensely sincere man, would prefer no tribute to an insincere one. Evidently the debt, if not just repudiated, has been forgotten.

The story of the life and labours of Zeuss has never been told in English ; in fact it has been but imperfectly told as yet in any language. It is a story not without interest[3].

Johann Kaspar Zeuss was born in 1806 in the little village of Vogtendorf near Kronach in Upper Franconia. He was the fourth of the six children of Michael, a stone mason and Margareta Zeuss. It was the year of Jena and when Johann was born French soldiers were quartered in the house. Annoyed by the infant's wailing, they threatened to defenestrate him.

It has been taken for granted by all up to now that Johann was born of Catholic parents ; but a search made recently at my request for the

[1] The substance of this article was given in November 1953 in a Public Lecture in University College, Dublin to commemorate the first centenary of *Grammatica Celtica*.

[2] A special number of *Celtica*, the journal of the School of Celtic Studies of the Dublin Institute for Advanced Studies, is to be issued in connection with the centenary of *Grammatica Celtica*. To this number I have contributed an article entitled *The Background of Grammatica Celtica*, to which reference is made later. In it I have examined more closely the progress of Zeuss from Germanic and general linguistic and historical studies to the study of the Celtic languages. The issue of *Celtica* is in the press.

[3] The more important printed sources for the life of Zeuss are the following : Christian W. Glück: *Erinnerung an Kaspar Zeuss* reprinted from the *Münchener Gelehrte Anzeige* 44, (1857) 492-504 at the end of the second edition (1857) of Zeuss : *Die Herkunft der Bayern. Briefe von J. K. Zeuss an Chr. W. Glück* edited by Ludwig Chr. Stern in *Zeitschrift für celtische Philologie*,(CZ) *III*, 334–376. Ernst Kuhn : *Johann Kaspar Zeuss zum hundertjährigen Gedächtnis* in *Sitzungberichte der K. B. Akademie der Wissenschaften zu München*, 1906. Report of *Die Bamberger Centenarfeier zum Gedächtnis an Johann Kaspar Zeuss* by Maximilian Pfeiffer in CZ VI, 195-227. This contains two valuable papers : Anton Dürrwächter : *Das Leben des Johann Kaspar Zeuss und seine Bedeutung als Historiker* pp. 197-213, and Kuno Meyer : *Johann Kaspar Zeuss als Sprachforscher* pp. 213-223. Dürrwächter printed the same paper in fuller form in *Historiches Jahrbuch der Görresgesellschaft*, 27 Jahrgang. Edw. Schröder : *Johann Kaspar Zeuss* in Allgemeine Deutsche Biographie XLV, 132-6, 1899. Stern's review of Schröder's article has much of value. CZ iii 199. Henri Gaidoz : *Pour le centenaire de Gaspar Zeuss*, Paris, 1906, is taken altogether from Glück. The manuscript materials are described by Kuhn, op. cit. 23. Some of these documents were destroyed in the course of the second world war. Fortunately the rich *Zeussiana* in the Münchener Hof und Staatsbibliothek have been preserved. Kuhn, Dürrwächter and Stern made use of this *Nachlass*. I wish to thank Prof. Bernhard Bischoff of Munich for his assistance in reporting on the Zeuss documents in Munich and securing for me photostats of some of them. Through the courtesy and assistance of Hochw. Herr Pfarrer Wagner of Kronach I was able to draw on the rich tradition and memories which survive in Zeuss's native Vogtendorf and Kronach. To him, to Frau Schubert, great-grandniece of Zeuss, to Herr Willi Schreiber of Ruppen bei Kronach and to Herr Hans Stäudel, Hauptlehrer, Kronach I wish to express sincere thanks for their generous and valuable help. Dr. R. I. Best kindly gave me copies of two letters of Zeuss and an offprint of Schröder's article.

baptismal entry led to its being found not in the Catholic, but in the local Protestant records. It is very probable that the marriage was a mixed one. Apparently from the earliest years Johann was brought up in the Catholic religion.

As a small boy, Johann tended the family cows on the Kreuzberg, the hill-slopes of the valley of the Rodach. There he made the acquaintance of the village priest who fired the imagination of the youth with tales of local and world history, and later introduced him to his first foreign language—Latin. Five years of learning at the modest village school of Höfles were followed by three at the Latin School of Kronach. Then, in 1820 Zeuss entered the Progymnasium at Bamberg from which he was rapidly promoted to the Gymnasium. There in his first year he was *primus* of seventy-nine class-mates. Always taking either first or second place, excelling particularly in Latin studies, Zeuss graduated from this school in 1825 with the Silver Medal for distinction. He was serious-minded, we learn from the records, did not play games and was of excellent conduct.

We hear now of the first conflict in a life in which there were to be many. Margareta Zeuss wished that her gifted son should enter the Lyzeum or seminary at Bamberg as a candidate for the priesthood. Johann believed that his vocation was rather to secular learning. Further, he wished to make his own way in life and not to be a burden to his parents who were not wealthy. The conflict was evidently a sharp one. The boy entered the Lyzeum, but left after a short time and went to Würzburg. He thought that at the University there he could maintain himself and pursue his studies, but he failed, and soon he had to ask to be received back at Bamberg. He returned there but only for one year. The conflict must have been resolved without bitterness, and in the end of his days he would go back first to Bamberg and then to his home and family.

In the autumn of 1826 Zeuss entered the University of Munich, and during the next four years, though already specializing in languages and history, he followed courses in Philosophy and Theology, the physical sciences, classical and Oriental languages, history. Amongst the eminent men whose lectures he attended were Döllinger, Thiersch and probably Schelling. A record happens to survive which speaks of the exceptional progress which he made in the study of Arabic at this time. During this period and always afterwards he supported himself. This stage of his study ended in the Autumn of 1830 with the *Lehramtprüfung* which he passed with distinction in philosophy and history.

Zeuss was fortunate to secure at this time the position of private tutor to the son of Graf Montgelas, a position which for two and a half years gave him security and time to continue his studies.

In December 1832, he received the official but modest appointment to the post of Teacher of Hebrew at the Alt-Gymnasium (now the Wilhelms Gymnasium) in Munich. In this poorly paid position he remained until 1839, no doubt because, with only six hours a week of lecturing, he had time for study ; and he had easy access to good libraries.

Practically nothing more is known of Zeuss during those years, but in 1837 he published his first book, *Die Deutschen und die Nachbarstämme,* and this was followed in 1839 by the second, smaller work, *Die Herkunft der Bayern von den Markomannen.* These books, especially the first, reveal the intensity and the depth and breadth of the studies of the young man in those otherwise wholly obscure years.

Die Deutschen und die Nachbarstämme, a book of some 800 pages, is a critical source-book of German history. For a man as young as Zeuss was, it is an astonishingly mature book. It reveals in the writer an amazing knowledge of languages, old and new ; it reveals a critical, enquiring mind, bold yet balanced. The style is difficult and heavy and the pages at times are overladen with erudition. The young scholar could find no publisher in Munich to print his book, until he himself had saved enough money to pay for the printing of it. The book was not too well received at the time ; but the true value of it could not be ignored, and it is a rare tribute that nearly a hundred years later—in 1925—Zeuss's book was reprinted in full and unchanged in the series *Germanische Bibliothek : Untersuchungen und Texte,* published at Heidelberg by the Carl Winters Universitätsbuchhandlung.

In the Preface to his book Zeuss gives some information about his family. This he introduces in a strange way. He has been speaking of some Germanic tribes which, in the spring of promise, full of the richness of the old Germanic way of life, vanish from the stage of history like those torn from the circle of friends and relations ; then he continues : "just as it has happened with my own, when in the course of three years and one month, while I was preparing this work, a hard fate has taken away so early from me, a good father, a younger brother, a dear sister and another brother, a gifted youth ". They all died, we know, of pulmonary tuberculosis, " the spectre of the family ", which already was haunting Johann and would claim him too.

Zeuss's second book, published in 1839, *Die Herkunft der Bayern,* was an expansion of a chapter of his earlier work. The subject of it was one much discussed at the time and the publication of it undoubtedly greatly influenced the career of Zeuss. The book was definitely polemical in character and, in the introduction especially, Zeuss wrote vehemently against those who attempted to discuss historical questions without the

necessary linguistic qualifications. More clearly in this work than in his first book he champions the view that the study of languages is essential for the study of history, not merely that the historian be able to read ancient records, but much more so for the evidence that language itself—especially place-names—affords. The book caused offence to learned influential contemporaries in Bavaria. More here than in his first book, Zeuss was confronted with the specific problem of the Celts and their languages. Already at this time Zeuss had acquired some knowledge of the Celtic languages, and his most caustic criticisms in this book are directed against those who are unable to distinguish between Germanic and Celtic words.

Zeuss now stood at the threshold of a distinguished university career, but he never crossed the threshold. In August, 1838, the degree of Doctor of Philosophy was awarded to him by the University of Erlangen. His unpublished thesis *De Ptolomaei Germania* was accepted as sufficient ; the oral examination was deemed unnecessary. In the November of that year he made application to the King and Government of Bavaria for a teaching post at either Erlangen or Würzburg, preferably the latter. He wished to see a chair of Germanic Philology established. This is the first of a long series of similar applications made between 1838 and 1840, mainly to the Bavarian court, but also to Berlin, Freiburg-im-Breisgau, Heidelberg, and Lucerne. All were rejected. The reasons given vary : there was no vacancy in one place, no money in another, no interest in a third and so on. The personality and ability to teach of the applicant are queried by the philosophical faculty of Würzburg, while Erlangen's Senate advised Zeuss to take out his *Habilitation* at Munich where he would have, in the excellent Munich Library, the fullest opportunity to prepare himself for such a post ! Zeuss at the time had obviously made more use himself of the Munich library than had the combined philosophical faculties and Senates of Erlangen and Würzburg.

The idea that Zeuss was rejected because he was a Catholic, first spoken of Berlin's refusal but later extended to the other places, is obviously not sound. Even for Berlin there is no need to appeal to that : the rivalry at the time between the Universities of Berlin and Munich would be sufficient explanation. We learn later that Zeuss suffered from a severe impediment of speech and this may have weakened his claim. But we shall see that later still his applications for the post of librarian or archivist (at Würzburg, Speier, Bamberg) are all likewise rejected. His qualifications for these posts were outstanding and the impediment of speech would not have been of consequence.

It seems to me to be certain that Zeuss was rejected on account of what he had written in the introduction to *Die Herkunft der Bayern*. His own native Bavaria was closed to him and, as his claims could not be

altogether ignored, he was eventually appointed to a modest position, professor of history in a Lyzeum, significantly not in Bavaria, but at Speier in the Palatinate.

For eight years Zeuss found peace in the quiet but congenial atmosphere of Speier. The climate agreed with him, and the weakness in the lungs, which appeared during his student days at Munich and which would afflict him again, is not heard of now. There was only one serious drawback, and that was the limitations of the local libraries. It was at this time that Zeuss definitely turned from the study of Germanic history and philology to the study of Celtic. I have endeavoured elsewhere[1] to trace the stages and the motives for that transition which is of peculiar interest to us.

In March, 1840, Zeuss made his last appeal to the Bavarian Cultusministerium and the Senate of the University of Würzburg. This one was sent from Speier and in it he spoke of a great work which he had undertaken, but which had to be suspended for lack of access to the necessary books and manuscripts. The work he had planned was an *Oberdeutsches Namenbuch*. Nothing more is heard of this project ; but in 1842, Zeuss published for the Historical Society of the Palatinate the *Urkunde* of the Merovingian Abbey of Weissenburg in Alsace. This work, *Traditiones Possessionesque Wizenburgenses*—incidentally a model of careful editing—is a rich treasury of old German place-names. In the following year Zeuss prepared a brochure on the history of Speier, and with that he would seem to have bade farewell to his Germanic studies.

In this year, 1843, Zeuss suffered another rebuff when his application for the post of Kreisarchivar for Speier was unsuccessful. We may well believe that he turned to the study of Celtic at least partly because he was so firmly turned away from his first choice. There were, however, more positive reasons for his second choice, of which I will treat later.

Zeuss had to travel in search of books and manuscripts. Every weekend from Speier he visited Karlsruhe, Darmstadt or Heidelberg, returning to base in the early hours of Monday. In the vacations he fared further afield. That he was now firmly fixed in the direction of Celtic is apparent from the records which remain from this time. Between November, 1843 and February, 1844, he copied out in full the great collection of early Irish glosses in the famous Würzburg Codex S. Pauli. Between 30 March and 13 April, 1844 he transcribed the Irish glosses at St. Gall. In the first week in May he transcribed the Irish glosses in Karlsruhe. In August-September of that year he visited Milan and Turin in search of Irish material ; and in October we find him seeking in the British Museum Library and the Bodleian Library, Oxford for Irish and Celtic manuscripts. He visited Milan again in the summer of 1846. In April

[1] In a forthcoming issue of *Celtica*.

1845 he borrowed from the library at Darmstadt the Mabinogion and Myvyrian Archaeology. In order to make his journeys Zeuss had to practise severe economies, and his friend and first biographer, Glück, assures us that it was to save money for these excursions in search of Celtic materials that Zeuss did not marry.

There is not much else that is known about Zeuss or his work at this time. A letter of his addressed to Jakob Grimm, dated 4 August 1846, shows that Zeuss is still concerned about what he and others at the time called *Celtomanie*. This plague had been rife since the end of the preceding century and unfortunately is not yet wholly eradicated. It has many forms, some in the order of the melancholic depression of everything Celtic, some of a frenzied exaltation. Zeuss was more exercised about the obsessional varieties, especially those which purported to solve all obscurities especially of German place or personal names by saying that they were Celtic. Usually, the person afflicted with Celtomania did not trouble to learn any Celtic language. Zeuss was thus steadily and vigorously studying the Celtic languages, especially seeking out their oldest forms, when political unrest and the mild madness of a ruler gravely disturbed his peace.

In the Spring of 1847 there arrived in Munich the incredible Limerick-born dancer and adventuress, Maria Dolores Eliza Rosanna Gilbert, better known under her assumed name of Lola Montez[1]. There is perhaps in the colourful history of absolute or semi-absolute monarchy no more fantastic comedy than the intrusion of this lady into the affairs of state in the kingdom of Bavaria. Unfortunately, the comedy had a direct and tragic bearing on the life of Zeuss. Lola danced at the *Staatstheater* and captured the heart of the foolish old king, Ludwig Karl Augustus. Five days after her arrival, Ludwig officially presented her at court as " his best friend ". A few days later, on March 7, Bavarian citizenship was conferred upon her and she was named by royal patent Baronne de Rosenthal and Comtesse de Lansfeld. The King fixed her state pension at 20,000 fl. (A few years later, Zeuss will worry because he fears that 8 fl. is too high a price for the two volumes of *Grammatica Celtica*). The conservative, ultramontane Prime Minister protested, and by the pleasure of the new Baronne, he and his government were deposed. The University of Munich then entered the lists, and at Lola's order, six of the most distinguished professors were dismissed. Amongst them was Döllinger, but more important for our story, Constantin Höfler the popular and influential Professor of History.

The problem of finding a successor to replace Höfler was a delicate one. It was solved on 4 April 1847 when the royal command went out to the forgotten teacher of history at the Lyzeum of Speier. The great honour

[1] Cf. H. von Treitschke : Deutsche Geschichte im Neunzehnten Jahrhundert, V, 649 seq. (5th ed.). 1908.

had come at last, and Zeuss received the news at first with joy. In political views, he was evidently a liberal and could accept the post without scruple. Nevertheless he hesitated, especially for reasons of health, but in the end, accepted.

We are most fortunate here in that we possess an eye-witness's account of what happened :—

> On the whole the appointment of Zeuss was very favourably received, and his first lecture was awaited with the greatest interest. On the day on which he was to give his first lecture, the class-room, one of the biggest in the University was crowded to overflowing. Every seat was taken, and an even greater number filled the passages and even crowded outside the open doors in the corridor. Then, the one whom all awaited arrived and began to speak—stammering. At first it was thought that the stammer was due to nervousness, but soon it was apparent that he could not speak without an impediment. The disappointment was as deep as it was universal. At the second lecture the attendance had dropped to half, and at the third only six or eight students came. Zeuss quickly makes a decision. At the end of the lecture he took out the register from his pocket. To the students who are present and who have signed on for his course he gives an order : from now on they are to present themselves punctually at seven o'clock in the morning at his own house ; there he will continue his lectures. In vexed and sullen mood the students obey, and when Zeuss himself opens the door of his house to them, to their bad temper there is now added a feeling of contempt for this man. But then at a stroke the whole situation changes. At their very entry into the work-room of the scholar, astonishment and awe seize them, and scarcely has the lecture begun, when they are overcome by a sense of deep veneration. It is not a formal lecture which he gives, rather a practical Seminar, helped out by his superb reference library, whose treasures, in an untiring way, he makes available to his students. The very first lecture has them bewitched. Day after day they continue to come, eagerly now, and soon they were so enthusiastic for their teacher that they were afflicted with real sorrow when the conclusion of the Semester brought the lectures to an end.[1]

Unfortunately this vivid record of triumph is but part of the story. Zeuss might charm a half-dozen students at his *Seminar,* but he was a public failure. The students demonstrated against him. Zeuss, most unwillingly made the centre of strife, suffered grievously first mentally and then physically. He would seem to have suffered from a nervous break-down even before a severe haemoptysis in the month of June gravely injured his health. Acute mental depression followed and early in September, in a broken state, he applied first to be relieved of his

[1] Translated from Kuhn op. cit. p. 26 who in 1906 got this account from his colleague, Friedrich, who heard it from Anton Scheidl, formerly Subregens in the Georgianum at Munich and in 1906 Domkapitular in Augsburg. To judge from other evidence Zeuss's library must have consisted to a considerable extent of borrowed books and of his own transcriptions of manuscripts and books.

responsibility as professor and to be given instead a post as archivist or librarian in Munich. Before he received an answer to this appeal, he sent in on 11 September his plea to be allowed to retire altogether from Munich and to return to Speier. This appeal was sympathetically considered by the *Cultusministerium,* but his post at Speier had already been filled. Instead it was arranged that Zeuss should change places with his old teacher of history at Bamberg. The exchange was made on 12 October. Zeuss came back to the seminary where twenty-two years earlier he had spent one uneasy year. He returned to a life very similar to that of Speier, but his health was broken.

The life of Zeuss at Bamberg was one of quiet teaching and unremitting study. Here, too, he suffered from want of books. He travels still, courageously, but much less than before. He borrows books steadily from Munich, especially through the good offices of his friend, Glück. The priest who was Rector of the Lyzeum was sympathetic and actively encouraged Zeuss in his scholarly work. In a letter of 8 June 1850, Zeuss writes from Bamberg : " At Speier I was content, and I never wished to leave my post there, but I am more happy here ".

Of Zeuss's work as professor at the Lyzeum at Bamberg we would know practically nothing if it were not that Kuhn in 1906 recorded a most interesting account from one who a half century before had attended Zeuss's lectures. It was at a time when Zeuss's health had greatly deteriorated. Here is the account :—

> I myself heard Zeuss's lectures in the *Wintersemseter* of 1854-55. I can still see him before my eyes and hear him speak. Though only forty-eight years of age at the time, he looked like a man of sixty, a man who had behind him years of hard work. Already somewhat bent and unable without difficulty to stand erect, he used to enter the class-room in a simple, homely manner, often carrying under his arm a great bundle of books with which he used to illustrate his teaching. He lectured to a class of 30–40 young people : the majority of them knew his name and nothing more ; certainly no one knew the real scholastic eminence of the teacher. He never mentioned his book, *Die Deutschen und die Nachbarstämme,* and no word of his *Grammatica Celtica* ever reached us. That it was this man who had laid the ghost of the Bavarian Celt—that imaginative creation of learned fools—that was never divulged to us. But when he raised himself up, supporting himself on the first bench, the chalk in his right hand and a great moist sponge in his left, then this learned man, with the deep, dark eyes and head framed in long, dark but greying hair, dominated all. Though ever of serious mien, his character was attractive and kindly : one could not fail to see that for him to teach was a joy. It is true, we were taken aback when we heard him begin to speak hesitatingly and with a stammer which recurred after every six or eight words. Yet, after from four to six lectures one got so accustomed to this that it was scarcely

> noticed any more, for soon the interest which he knew how to waken for his subject made one completely forget his impediment. Apart from this defect, his lectures were without fault, eloquent, brilliant, clear. I cannot remember that he ever made a mistake. He was a brilliant teacher. I have never listened to lectures with more profit or with greater interest. It was evident at this time that Zeuss was gravely ill, and he had to call on his last resources to give the lectures to which he was obliged. Frequently as he went from the rostrum to the blackboard to write down names, derivations, etc., he would sway rather than walk, and often it seemed that he would collapse from weakness as he stood before the blackboard or returned to the rostrum.[1]

It was in the Autumn of 1843 that Zeuss had begun to copy the Irish glosses at Würzburg. Just ten years later, in the autumn of 1853, *Grammatica Celtica* appeared. Modelled on Jakob Grimm's *Deutsche Grammatik*, but written in Latin, the two volumes of 1,200 pages present an ordered grammatical treatment of the Celtic languages, drawn as the title has it " e monumentis vetustis tam Hibernicae linguae quam Britannicae dialecti Cambricae Cornicae Armoricae nec non e Gallicae priscae reliquiis ".

It would be impossible, I fear, to give here to the general reader any idea of the greatness of the achievement of Zeuss in this work. In the first place, he was a pioneer in the strictest sense of the word. He read, transcribed, translated and interpreted—to take one example—for the first time, without any assistance from anyone or any book, the very difficult early Irish glosses which had rested undisturbed for over one thousand years. It would seem that Zeuss never met and never communicated with any speaker of any Celtic language. During the years in which he acquired his knowledge of the Celtic dialects, he had no one whom he could consult or ask for help. He had some books, but, as I have shown elsewhere, he distrusted them and made little use of them[2]. He had a brilliant mind and an unerring eye ; he had had a splendid linguistic training ; he had before him the inspiration of the great pioneers Grimm and Bopp and Dobrowsky ; he had the German's capacity for unremitting toil and application ; he had the challenge and incitement and the irritant of the Celtomaniacs ; but he had, too, as is clear from the Preface to his great work, enthusiasm and a sense of dedication.

Zeuss is acknowledged by all to be the Father and the Founder of Celtic studies. He laid alone and unaided the foundation stone of that discipline. Since his time, all serious scholarship in Celtic has been founded on that rock.

The achievement of Zeuss is the greater for the grave handicap of

[1] Kuhn op. cit. p. 27 testimony of Friedrich.
[2] Issue of *Celtica* already referred to.

ill-health under which he worked. The years which remained to him after the publication of *Grammatica Celtica*—there were but three—were years of steadily failing health. We happen to know more about Zeuss during those years than at any other time in his life. This we owe to a series of thirty letters which Zeuss wrote to Glück between May 1853 and April 1856, all addressed from Bamberg except the last four which were written from his brother's home at Kronach to which in the end he retired.

These letters are an unconscious record of the declining health of a man whose spirit never flagged. Zeuss is working all the time—already planning and preparing a new edition of *Grammatica Celtica*. The letters tell of books borrowed and returned, of journeys planned but now more often unaccomplished: we hear of projected visits to Milan, Turin, Prague, London and even Copenhagen. But more than anything else, these letters reveal a man whose life and failing strength are dedicated to the task of saving the study of the Celtic languages from the '*Idiotismus*' of the Celtomaniacs. He is eager for battle in this cause, and prepares to hand over the leadership in it to another when he senses the approach of the end. Two years after *Grammatica Celtica* appeared, he considers that it is out of date. He makes anxious enquiry about the rate of sale of the edition, tells his friend, Glück, what material to look for in what soon will be his *Nachlass*, and—" now that the condition of my health is so grave "—he charges Glück with the task of bringing out a second edition of the work.

In the Spring of 1855 Zeuss had to give up his teaching at Bamberg. In the Autumn of that year he applied for leave of absence for the *Winter-semester*, and in the Spring of 1856 he applied for further leave of absence for one year. Before the year was over he was dead ; and before he was dead, one regrets to record, the government dismissed him from his post, " true ", as Dürrwächter says " to the prescriptions of bureaucratic red-tape."

In his last illness Zeuss came back home, first, to the house in Kronach of his only surviving brother, Georg, and then in the last few months to the old house at Vogtendorf where he had been born fifty years before, and where now he was cared for by his married sister, Margareta. On 10 November 1856, after he had finished his mid-day meal, at about 2 o'clock in the afternoon, Zeuss died. He did not die in his bed. He died as he was about to set out on a journey. Dürrwächter writing in 1906 thought that it was probably a journey to the south, to Milan. There is some reason to believe that it was rather to Dublin that Zeuss was about to journey.

Memories of their illustrious *Gelehrter* are still fresh in his native Vogtendorf. Through the help and courtesy of the parish priest of Kronach many of these pious recollections were written down recently and sent to me. Amongst them was the following passage from Frau

Schubert (*geboren* Zeuss), a great grand-daughter of Zeuss's brother, Georg. Frau Schubert lives now in the house in which Zeuss died. What she records, she tells us, she heard from her mother and her grandmother and other relatives. She heard many things told, especially about his last days

> which he spent in the small corner room. It had been his custom to stay here, when he returned from his journeys or when he rested from his great labours. 'The man in black is here again,' the people of Vogtendorf used to say ; for when he appeared in the village dressed as always in black clothes, they regarded him with awe. While he was ill he received an invitation to come to England. He asked his sister, who looked after him, to go to Kronach to buy there for him the linen and other things needed for his journey, because when he would be well he wished to set out on this journey . . .

In the issue of *Die frankische Presse* for 22 July 1936, in an article based on tradition, it is said that the death of Zeuss occurred just when " he had received his nomination to a professorship in the University of Ireland at Dublin which had been established there for him ".

So far the evidence of tradition. That the memory is substantially true is made clear from a letter of Zeuss written in July 1856 and addressed to Siegfried, the German-born professor of Sanskrit at Trinity College, Dublin. It is clear from Zeuss's letter that in the summer of 1856 he had received an invitation from Dr Todd, regius professor of Hebrew in Trinity College and President of the Royal Irish Academy, to come to settle in Dublin, and it is evident that some work or post was to be offered to him. In this letter Zeuss expresses his intention of accepting and discusses his plan to travel to Dublin with Siegfried who was visiting Germany at the time. In particular Zeuss declares his modest requirements at Dublin as *ein Zimmer mit einem Bette*. Siegfried visited Zeuss at Kronach in the summer and found there, to use his own words, " a dying man ".

Johann Kaspar Zeuss was a great man, and he achieved something great and enduring. He ploughed a lonely and a hard furrow, but, having set his hand to the plough, he never looked back. The task he undertook was one of immense difficulty in itself ; poverty, ill-health, lack of books, and lack of recognition made it harder far. The story of his life and work is one of unflinching dedication to an ideal ; and it is inspiring. Obviously he had a passionate devotion to his work, but it was not undisciplined or unrestrained, even though it probably killed him. There is a nobility about him which is unmistakable, a dignity which is elevating. In a life in which there was so much of disappointment, so many rejections, I can find no word of bitterness or recrimination. The outcast at Speier was at peace ; the 'failure' at Bamberg was happy. Of that particularly objectional phenomenon, the *odium Celticum*, there is no trace. In the long introduction to *Grammatica Celtica* there is

not a phrase of controversy, though the noise of conflict was so much about him. Even in his earlier work, *Die Herkunft der Bayern,* his strictures, though severe and out-spoken, are not unjust. Indeed, it is in the Preface to that work that we learn the secret of Zeuss's high principle. For there he declares that the scholar is not free : he must be absolutely dedicated to the service of truth and light : otherwise he but distorts and defaces the beauty and order of God's creation.

' Homely ' is an adjective that occurs more than once with reference to Zeuss. Externally he may have taken on something of the formalism of the learned world to which he belonged, but underneath there was a warm Bavarian heart. It is not surprising that in his last illness he returned to the people from whom he had come. Nor is it surprising that he is remembered to-day in his own country and village " as the little cowherd who learned Latin and history from the priest on the Kreuzberg, who later became a great professor, but who, in spite of his great learning remained ever the child of his own home and family, of his own Vogtendorf and of his own Frankenland ".

In more than one place Zeuss shows plainly that he loved his home and country, Bavaria and Franconia. In the last analysis, I believe that it was through this love that he came to devote himself to the study of the Celtic languages and more particularly of the Irish language. We know that already as early as 1837 Zeuss was reading the great Bollandist *Acta Sanctorum.* We do not know when he first read in one of those great volumes the *Vita Beati Mariani Scotti.* Two men bore that Latinised name ; this one, Muiredach Mac Robartaig, from Donegal, is the less well-known of the two. He was one of the *Scotti Peregrini.* The story of this Marianus Scottus, it would seem, made a deep impression on Zeuss. He makes the only digression in the book—and it is a lengthy one—to tell his readers in *Grammatica Celtica* all that he knows about Marianus ; and one of the last, if not the last journeys of his life, was to Vienna to hold in his hands the only manuscript then known to have survived which had been written by Marianus Scottus. There were, in fact, many reasons why Zeuss should have been affected by this man. Marianus had left his native land to devote himself to the people of Zeuss's own country. Marianus, like Zeuss, had spent one year in Bamberg before he began the work to which he was dedicated. What was that work ? It was especially the copying of books and manuscripts. Zeuss, we may reflect, was a great copyist of books and manuscripts : he wrote out whole books which he could not afford to buy. Marianus copied books for his missionary brethren, but also, as the old Life tells us, " for poor widows and indigent clerics ". Even Zeuss himself, cold and objective in the extreme though the rest of the book may be, cannot but tell his readers the attractive legend of the fingers of the Blessed Marianus, fingers that burned with a supernatural light, turning night to day so

that the indefatigable copyist might continue his work of charity. So Zeuss cites and emphasizes with italics the happy result of these labours for his own people : " Moreover many monastic *congregations,* which being *recruited from Ireland* through faith and charity and the desire to imitate the Blessed Marianus, *dwell in Bavaria and Franconia, peregrinando, are supplied for the most part with books that had been written by the Blessed Marianus.*" Finally, we may add, that Zeuss knew, for he cites the work in the Preface to *Grammatica Celtica,* that the Bavarian historian, Aventinus, had visited the monastery at Ratisbon, the monastery of Marianus, before its destruction, and had himself seen there some of the books which Marianus had written.

It may have been the quest for the lost writings of Marianus that led Zeuss first to the Codex S. Pauli at Würzburg, that great treasure-house of the early Irish language, written or brought there by another of the *Scotti Peregrini* some four hundred years before the time of Marianus. In seeking for a motive to explain why Zeuss turned from Germanic to Celtic studies, it may not be extravagant to suggest that the sense of a debt which his beloved Bavaria owed to Ireland may have played a part. Zeuss believed and he stated so plainly more than once, that the serious study of Celtic must begin by an investigation, not of the modern dialects, but of the oldest forms. Zeuss knew better than any man at what a shamefully low level the study of Celtic stood. Even its claim to be recognized as one of the Indo-European family was not generally admitted. Zeuss was by his training splendidly equipped to undertake the great task. Zeuss would have sensed that from such a manuscript as the Würzburg Codex S. Pauli one might obtain by dint of great patience and labour a satisfactory, scientific knowledge of one of the Celtic languages.

And so where Marianus had laboured with fingers that burned, Zeuss began to work with a labour which would in the end consume his whole being. Both men laboured in the high service of truth, both toiled to bring light where there was darkness, both strove to guide the footsteps of their fellow-men away from error. In that sense it may be fitting to end this tribute by applying to *Grammatica Celtica,* with but the change of the name, the last colophon of Marianus Scottus :

In honore individuae Trinitatis Johannes Zeuss scripsit hunc librum suis fratribus peregrinis. Anima eius requiescat in pace. Propter Deum devote dicite : amen.

FRANCIS SHAW

William Higgins, Chemist (1763-1825)

Part II*

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4. Chemist to the Irish Linen Board (1795–1822)

We leave Higgins in process of transfer from the Apothecaries' Hall to a post with the Dublin Society, and pause to discuss a neglected phase of his career. As has been indicated, his long hours (on paper) at the Apothecaries' Hall did not preclude his taking additional work, and early in 1795 he had been appointed " chymist " to the Irish Linen Board at a salary of £100 per annum.[69] He says in a memorial written in 1821 (see below) protesting at the retrenchment of this office that he did not solicit the post. From their minutes, Kirwan seems to have been highly regarded by the Board, so we can perhaps suspect his kindly influence.[70] There is no definite reference to the appointment of Higgins in the Minutes for 1795, but those of the meeting held on 1 April 1794 refer to the activities of his predecessor James Clarke, while on 28 April of the following year the Board directed that a sample of fuller's earth be sent to Mr Higgins.[71]

The Linen Board which Higgins served was officially " The Trustees of the Linen and Hempen Manufactures of Ireland " and was a typical eighteenth century Government-nominated body, on present standards riddled by corruption. The Trustees were first appointed in 1711, mainly to control the manufacture of Linen and were usually members of the legislature. They numbered 72, equally divided among the provinces of Ireland. As was to be expected, the Board never functioned satisfactorily ; attendance, unless a post was to be filled, was poor, particularly after the Union when the Trustees were frequently out of Ireland,[72] while dishonesty was rife among the employees scattered throughout the country. In 1811 the senior Inspector General, Charles Duffin, was sentenced to three months imprisonment and fined one mark for obtaining money from the Trustees under false pretences.[73] He was also under suspicion of conniving at frauds. The Trustees' own financial methods were frequently the subject of criticism by the Commissioners of Public Accounts,[74] who had, however, a proper administrative attitude towards professional men of the chemist type, classing them

* Part I : Spring 1954, pp. 78-91.

with tradesmen.[75] The Board was dissolved in 1828, leaving the linen trade flourishing only in the North of Ireland, where the system of land tenure was rather more stable than in the remainder of the country.[76]

With all their faults, however, the Trustees were early alive to the importance of chemistry. On 2 June 1716 the Secretary was directed by the Board to arrange for the attendance of Mr Maple, Chymist, at an "experiment of making Pot-ashes."[77] A return to the Government made in 1801 states that "A Chymist was first appointed in 1782 under the appropriation to encourage the making of Potash. After his death the present gentlemen was appointed."[78] James Clarke, Higgins's predecessor, worked first on the erection of a plant for refining "ashes" to produce pearl-ash (potassium carbonate from which carbonaceous matter had been removed by incineration at a moderate red heat). The early method of bleaching involved boiling the linen in alkaline lyes, washing it clean, and spreading it on grass for about two weeks. The whole process was repeated about six times and required perhaps six months to complete. The cloth was freed from alkali by treatment with acid.[79] Berthollet's method of bleaching[80] using "oxygenated muriatic acid" (chlorine) was discussed by the Trustees on 23 March 1790. The minutes of the meeting in question state that Mr Kirwan attended at the request of the Board, and informed the Trustees that the chemical preparation for bleaching was composed of "Spirit of Salt distilled on Manganese," and that Mr Barthollet (*sic*), an eminent chemist in Paris, seeing its effects in whitening vegetable substances communicated his experiments to the proprietor of certain salt works there who immediately commenced its manufacture. Later, in January and February 1791, the Board arranged to offer a premium of £400 for the best formula for the new type of bleaching liquor. The entries received were carefully tested by Clarke and other officers of the Board.

Higgins tells us in Section IV of his *Essay on Bleaching*, published in 1799,[79] that when he became chemist to the Linen Board he devoted a considerable portion of his time to a study of the application of chemistry to the treatment of linen. The practice of bleaching was his chief concern, possibly because of the interest taken in the subject by the Board. On 3 April 1798 the Trustees received from him a report on experiments on the application of "oxygenated muriate of lime" (bleaching powder); the use of bleaching powder solution in place of chlorine was a considerable advance, particularly in safeguarding the health of workers. In May of the same year Higgins reported that he had, as the result of numerous experiments, shown that calcareous hepar (calcium sulphide) from quicklime and sulphur could replace the potash used in the alkali boils, with a considerable economy in the cost of materials. Further, as the new reagent was employed in the cold, there was a saving of fuel.

The essay on bleaching mentioned above was dedicated to the Linen Board. The copy in the National Library, Dublin, which was originally in the Library of the Royal Dublin Society, is inscribed " From the Author." The preface occupies 30 pages ; the essay itself runs to 70. In the preface Higgins explains that when he reported on " sulphuret of lime " (calcium sulphide) to the Linen Board, the Trustees asked him to give an experimental demonstration of the process at the " Elaboratory " of the Dublin Society. He accordingly delivered a lecture, illustrated with experiments, upon the general principles of bleaching. After the lecture John Foster, Baron Oriel (1740–1828), last Speaker of the Irish House of Commons, and Isaac Corry (1755–1813), Chancellor of the Irish Exchequer (1799–1804), suggested that it should be published. Higgins decided to deal with the whole process in detail, commencing " with the green *flax* so as to begin at the right end of the chain . . . to take it up link after link, according to the position or arrangement which the finger of nature seemed to point out to me."

He found it impossible, however, to keep away from controversy. Referring to his " *Comparative View* "[13] published nine years before, he writes (Preface, p. ix), " For a considerable time have I stood alone in England, where I then resided, being the first who adopted the anti-phlogistic doctrine, and the only man who had expressly written in favour of it in the English language." He complains that two results which he published in the *Comparative View* were later adduced as new discoveries on the continent ; one referred to the presence of bile in the blood (*Comparative View,* p. 162), and the other to the use of sulphurous acid for the determination of carbon in iron (*Comparative View,* p. 49). He also recapitulates his belief, elaborated in the earlier work, that, since iron will not rust in dry oxygen, the process involves decomposition of water, the oxygen from which attacks the metal while the hydrogen recombines with gaseous oxygen. In this connection he points out that a " fair author," Mrs Fulhame,[81] in a book published in 1794 had put forward a similar theory as her own. However, he begs leave " to assure Mrs F. before we part, that I read her book with great pleasure, and heartily wish her laudable example may be followed by the rest of her sex ; particularly by those who possess talents and means for making chemical experiments."

The essay which is written in Higgins' usual clear style is divided into the following sections :—On flax ; on bleaching in the old method, with general observations on the alkalies ; on bleaching with the oxygenated muriatic acid, and on the methods of preparing it ; on sulphuret of lime as a substitute for pot-ash ; on bleaching with the sulphuret of lime. In the concluding portion of his essay, Higgins goes into the economics of his process, and points out that the cost of chemicals for the alkaline treatments would be halved if calcium sulphide were employed ;

further as sulphur could be obtained from the Wicklow copper mines, the use of imported material would be obviated. He mentions that about 215,307 (*sic*) pounds annually of foreign alkalies were imported each year into Ireland for bleaching purposes. Higgins' work on the use of calcium sulphide was reprinted in *Nicholson's Journal*,[82] and in the *Transactions of the Dublin Society*.[83] The Society also reprinted[84] a favourable comment on the *Essay* from the *Critical Review* for June 1801.[85]

Higgins in his *Essay on Bleaching* referred to the detection of potassium sulphate which he stated was a common adulterant of potassium carbonate. On 4 February 1801 he reported to the Trustees on a sample of pot-ash which he had found to be adulterated adding, " I have no doubt but this species of ingenuity is solely practised for the Irish market upon a presumption that we are not able to detect the fraud." On 10 November 1801 he told the Trustees that oxygenated liquors are not " calculated " for the bleaching of linens. He referred in this connection to his *Essay* (p. 49), where he had stated that oxygenated muriate of lime (bleaching powder) solutions are less liable to injure the texture of the cloth than those of oxygenated muriate of pot-ash (potassium hypochlorite).

Higgins's work seems to have been appreciated for on 7 June 1808 the Trustees received a Memorial from the registered Bleachers in County Tyrone asking for the chemical establishment of the Board to be enlarged " not only by duly appreciating and encouraging their present chemist in the exercise of his functions, but also of allowing and appointing, in co-operation therewith, some further personal aid . . ." The Trustees decided to make arrangements for Mr. Higgins to attend two or three principal bleachers in each county to help in the new process of bleaching. In December 1810 the Trustees were specially requested to attend a meeting at which Humphry Davy was to be present to discuss the subject of bleaching. As will be clear from the attitude of the Dublin Society described later, Davy had a great reputation in Ireland.

In May 1812 Higgins memorialized the Trustees reminding them that in 1802 and 1803 he had stated against the opinion of expert bleachers that the use of " detergent salt " would be injurious to linen. His predictions had turned out to be correct. In 1804 he had visited all the principal bleach greens in the North, his tour occupying two months. The Bleachers had asked for an occasional repetition of his tour. Recently he had been to Dungannon to report on the pollution of the water in the river by a distillery. Finally he pointed out that £100 when his salary was fixed was now worth £50 only, " from the advanced price of all the necessities and comforts of life," a plea with a modern ring. The Trustees gave Higgins £100 to cover the expenses of his tours, but did not increase his salary.

One part of Higgins's duties was to examine various suggestions received by the Trustees, for example: a process for the improvement of

kelp which was a source of alkaline material ; a method for the determination of alkali present in potash and similar materials ; regeneration of exhausted alkali by treatment with quick lime. In January 1819 Higgins reported to the Trustees the results of numerous experiments he had made on the pot-ash content of a variety of vegetable material. In May 1820 the Trustees were informed that sodium carbonate prepared by the Leblanc process (*Soudè Factise*) had, on importation from Marseilles, attracted a duty of 50%. The Board referred the matter to Mr Higgins for a chemical opinion on the properties of this new alkali before they approached the Government in regard to a remission of duty. Higgins reported that the new artificial soda was superior to the natural " barilla " and that there should be no difference between them as regards duty. He warned the Trustees against possible adulteration of this material.

But in spite of his long service he was doomed once again to be the victim of a policy of retrenchment. In November 1821, the Trustees received from the Lord Lieutenant instructions to reduce their establishment. They appointed an Economy Committee, who recommended reductions in the salaries of most officers, and abolition of the posts of Deputy Chamberlain, Clerk of Works, Messenger, Watchman and, of course, Chymist; expert assistance is seldom regarded as essential in times of peace. The Trustees met on 19 November 1821 to implement the recommendations of the Committee. They had before them a Memorial from Higgins written the same morning saying that he was in waiting should the Trustees wish to see him. He pointed out that he had been appointed to the service of the Linen Board some 27 years before, without any solicitation on his side. During that period the Board had received innumerable applications for pecuniary rewards for pretended improvements in the process of bleaching, the fraudulent nature of which he had detected. He referred to his condemnation of " detergent salt," the use of which had ruined many bleachers, and to the advantage bleachers had received from a study of his essay on bleaching. His final paragraph is instructive :—" Men of science meet with protection in every enlightened nation ; and I trust, from what I have already experienced, that it will not be withheld by your Honorable Board, particularly when I can assure them, with truth, that, upon an average of 27 years, I saved to the Board, and of consequence to the Nation, ten times my Salary."

The argument that the application of science saves more than it costs carries little weigh in times of financial stringency, and Higgins's post was abolished as from 5 January 1822, the day on which the Trustees' official year began. Thus ended his connection with the Linen Board. Actually from the financial point of view the loss of £100 per annum meant little to him ; as shown later he was a wealthy man.

5. Higgins and the Royal Dublin Society

Higgins when he left the Apothecaries' Hall was not without alternative employment. His salary had been paid to 20 June 1795 ; on 18 June, the Dublin Society,[68] as it then was, on the suggestion of Kirwan appointed Higgins to arrange and supervise the famous Leskean collection of minerals which it had recently purchased for some £1,300.[86] The initial salary was fixed at £100 per annum. Kirwan in his recommendation referred to Higgins as skilled in mineralogy. The Society knew that Kirwan's friend was a chemist and not a mineralogist, and decided in view of Higgins's " extensive Skill in Chymistry " to equip a laboratory in which he could make " Experiments on Dying (*sic*) Materials and other Articles, wherein Chymistry may assist the Arts." This laboratory is believed to have been the first of its kind in Great Britain and Ireland.

The Society did not accept a recommendation of Kirwan's Committee that Higgins should also look after the Library. Sullivan,[2] who states that Higgins was appointed Librarian, appears to have been misled by a certain obscurity in the minutes in regard to those recommendations of the Committee which were accepted by the Society. There is no indication that Higgins ever had charge of the Library ; for example a minute dated 3 March 1796 sanctioning the tardy payment of his first half-year's salary due 18 December 1795, refers only to his service in connection with the " Cabinet of Mineralogy." The Library was apparently in charge of the Society's Registrar, John Brien, who disappeared in 1798—possibly he was involved in the rising.

The Irish Parliament annually granted money to the Society[87] and the 1796 Act (36 George III, chapter 16) provided £5500 *inter alia* " towards compleating a cabinet of Irish minerals, supporting the expenses of the Leskean cabinet of minerals, and paying a salary not exceeding one hundred and fifty pounds a year, to Mr William Higgins, or such other professor of mineralogy or chymistry as they (the Society) shall from time to time appoint to the care thereof."[88] Higgins received the £150 as from 18 June 1796. The terms of this Act as regards Higgins were repeated each year[89] until 1800, when the Irish Parliament (40 George III, chapter 31) increased the grant by £10,000 and gave the two Professors of the Society, a salary of £300 per annum.[90] Higgins was to attend the Laboratory and give a full course of lectures. This Act was among a large number which received the Royal Assent on 1 August 1800, immediately before the Irish Parliament ceased to exist.[91]

The increase in the grant was the result of a petition made by the Society early in 1800 to the Irish House of Commons.[92] The petition pointed out the great expense the Society had incurred in purchasing and accommodating the Leskean collection of minerals and in providing

and equipping a chemical " elaboratory." The Society had also " established a professor of great ability to make experiments and give lectures in that science, through which manufactures have received of late years the most decisive and rapid improvements." The Society required extra room so that new methods in, for example, tanning and brewing, could be executed for the examination of the public. The petition also stated that just as the rules of arithmetic must be mastered before its application to book-keeping and the like, " so, the knowledge of the general principles of *philosophic chemistry* necessarily precedes that of their application to various arts "—words as true to-day as when they were written.

In April 1796, possibly through the good offices of Kirwan, the Society was asked to provide apartments for Higgins at the Laboratory because of " his necessary Attention to Operations of great length, and the Danger he might be liable to if exposed to the Air when overheated by attending the Furnaces." The Society was not moved by the thought of Higgins shivering in the night air, the proposal was referred to the Committee of Agriculture, and no more was heard of it.

Higgins was not long about organizing lectures. In *Saunder's News-Letter and Daily Advertiser* for 31 January 1797 there is an announcement that " The course of Experimental Chemistry, by William Higgins, Lecturer on Chemistry and Mineralogy, will commence at the Elaboratory of the Dublin Society, in Hawkin's-street, on Monday the 6th of February next, at eight o'clock in the evening.

For further particulars apply to Mr Higgins, at the Dublin Society House, in Hawkin's-street, between the hours of twelve and four."

Higgins's hours do not seem to have been as arduous as when he worked at the Apothecaries' Hall.

In April 1799, the Society directed that Dr Walter Wade, their Professor of Botany, should give lectures in the chemical laboratory and instructed him to settle with Higgins convenient days and hours. Higgins seems to have reacted, for a week later it was decided that the lectures should be given in the library. In May of that year Kirwan obtained sanction for the appointment of an assistant to help Higgins in the Laboratory, at not more than half a guinea per week. Again, in March 1800 Kirwan proposed that in consideration of the great attention, trouble and fatigue shown by Higgins in the course of the last year, he should be given £150 and his salary increased to £300 per annum on condition that members of the Society should be admitted free to the chemistry lectures ; lecture fees were evidently a perquisite of the professor.[93] It was decided that the proposal should lie on the table for perusal of the members. On 26 June 1800 Higgins was paid £112 10s.

for the six months ending 25th June, indicating that his annual salary had been increased to £250. In a minute of 28 August his salary for the quarter ending 29 Sept. is given as £75, and his post " Superintendent of the Society's Cabinet of Mineralogy and Professor and Lecturer in Chemistry in their Laboratory." As stated above, the 1800 Act had given him £300 per annum.

The minutes of the Society through the years contain many routine references to Higgins and his activities. Samples were sent to him for analysis, the price of admission to his lectures was regulated, and the expenses of running the laboratory were paid.[94] On 28 January 1802, a Committee of Chemistry and Mineralogy with fourteen members was set up to supervise the laboratory and mineral cabinet ; control of expenditure over £5 was reserved to the Society. In May 1802, the Society's printers were paid £45 10s. for 650 copies of the syllabus of lectures delivered by the Professors of the Society.[93]

In August 1802, the Society acceded to a request of the Irish Commissioners of Revenue that Higgins should be permitted to proceed to London to serve on a Committee which had been set up to assist " in ascertaining an Hydrometer which shall be hereafter made use of as the standard to judge of the strength of Spirits. . . ." In October Higgins wrote from London stating that he was afraid that he would not be able to return to Ireland for another month, being detained much longer than he had expected. He was more than optimistic. A book of Minutes which is preserved in the Government Laboratory, London, shows that the first meeting of the Committee was held on 26 January 1803 ; the last meeting recorded in the book took place on 22nd April. Higgins was present at all 38 meetings. The Committee examined the various hydrometers submitted to them with the greatest care and eventually recommended the Sikes' Hydrometer which is still used.[95]

In January 1804 the Society appointed Mr Samuel Healy as operator to Higgins at £40 per annum, but in April found it necessary to compensate Healy and let him go, as Higgins could not work with him. Sanction for the appointment of a successor was at first refused ; however in December 1805 the Society relented and appointed Mr Samuel Wharmby as Assistant to Higgins ; Wharmby held this post until his death in the winter of 1823–24.[96]

In 1807 we find the Society busy with the provision of a new laboratory and deciding that plans of laboratories should be obtained from London and the Universities. By 1810 the laboratory was completed and Humphry Davy was invited to lecture on electrochemistry in it. He also lectured to the Farming Society on the application of chemistry to agriculture. The sale of 394 tickets yielded £672 5s. 3d. (Irish)[97]

and after paying Davy 500 guineas sterling and all expenses, the Society netted £39 7s. 9d. (Irish). It may be mentioned that Higgins himself in the next year received, in addition to his salary, 100 guineas sterling from the Society out of the profits of a lecture course. In 1813 he was granted £50.

In 1811 Davy returned to Ireland, delivered a lecture course during November and December, and superintended the construction of a large voltaic battery. This time he received £750 (Irish) for " two excellent courses " in chemistry and geological sciences. The following year the Society decided to separate the professorships of mineralogy and chemistry. A resolution was passed expressing appreciation of Higgins's work in mineralogy and stating the anxiety of the Society that Mr Higgins should devote himself to the work in which he excelled.

As always, Higgins was in trouble at intervals. In 1814 he was instructed not to interfere with the lectures of other Professors. In the same year the Society refused to pay £57 for printing his book on the *Atomic Theory*, but in 1815 relented and purchased 300 copies at 5s. each. Other tussles with the Society are described in the Minutes.[98] It is significant that an effort made in 1820 to have Higgins elected an Honorary Member of the Society failed, his name being withdrawn before the ballot.

In April 1817 the Napoleonic wars being over, Higgins obtained leave for six months to go to the continent for scientific business. He took advantage of his presence in London to obtain formal admission to the Royal Society on May 1 ; he had been elected as far back as June 1806. In 1820 a report on the state of the Society was sent to the Government. A covering letter refers to the Professorship of Chemistry as the first instituted, and with a certain disregard of accuracy claims that Higgins had been specially brought from the University of Oxford to teach chemistry and mineralogy. The report pointed out that many excellent chemists had been formed in the school developed by Higgins and refers to his work on bleaching. In spite of the report the grant to the Society was reduced ; it was the same period of retrenchment which cost Higgins his post with the Linen Board.[99]

In March 1823 Higgins was again out of Ireland and in the following winter Wharmby, who had served him for 18 years, died. Higgins did not long survive him. In March 1825 he was absent through indisposition, his will is dated 28 April 1825[100] and his death was reported to the Society at the end of June. Although a Professor of Chemistry, he died a wealthy man.

(To be continued)

T. S. Wheeler

Notes

[69] The account of Higgins's work with the Irish Linen Board is based on the Proceedings (Minutes) of the Board Meetings. There appears to be no complete set of these Minutes in Dublin since the destruction of the Public Record Office in 1922. However, the broken sets in the National Library, the Library of the Royal Irish Academy and in University College Library, provide for the period of Higgins's connection with the Board, a set from which the only volumes missing are those for 1800 and 1802–1804. An account of the early work of the Board is given in *Precedents and Abstracts from the Journal of the Trustees of the Linen and Hempen Manufactures of Ireland to the twenty-fifth of March, 1737* (Published 1784). These were compiled by James Corry who was in the service of the Board from 1790 until the Board was dissolved in 1828. Corry succeeded his father as Secretary in 1795 ; father–son succession was an 18th century method of superannuation. He found later that his father had died owing the Board over £13,000. The defalcation was discovered by the Commissioners of Public Accounts in 1805 (Minutes of 15 Oct., 1805) ; Corry then stated that he had always intended to repay this money when certain sums legally due to him became available. The Trustees accepted his promise to repay, which finally he did in 1812. The story of repayment as told in the minutes is epic, recalling Sir Walter Scott's struggles to repay his liabilities. Corry was in fact an unusually good type of public servant, honest, diligent and able. The Commissioners of Public Accounts, who, like their modern counterparts, did not lightly praise, frequently bore testimony to Corry's merits (see, for example, *Proceedings of the Board for 1810* ; first half-year, Appendix XIX ; *Proceedings*, 1821 ; Appendix, p. 53). The Trustees (Minutes of meeting of 1 December, 1812 ; see also Minutes of meeting of 3 March, 1812), referred to Corry as " a fair and honorable man, a faithful, zealous, and disinterested public Officer." They frequently complimented Corry on his work. (See, for example, Minutes of Meeting of 4 September, 1810).

[70] A paper by Kirwan, in the *Transaction of the Royal Irish Academy* (1790, *3*, 3), on the *Alkaline substances used in Bleaching and on the Colouring Matter of Linen-yarn* contains references to Clarke who was Higgins's predecessor.

[71] A return from the Board to the Government dated 6 October, 1801, which lists their staff, states that he was appointed in 1795.

[72] . . . . " that the Body is too numerous, that the attendance of the Members is too fluctuating, and on many occasions, any attendance whatever is difficult to be obtained." (*Report of the Commissioners of Public Accounts for 1819* ; Appendix to Proceedings of the Board for 1821, p. 54). The average attendance of Trustees for the latter half of 1810 was six ; at nine out of 21 meetings less than four were present. In 1814 the average attendance was four. (See *Report of the Commissioners of Public Accounts for 1814* ; Appendix to *Proceedings of the Board for 1816*, p. 8 ; also *Journal of the Irish House of Commons*, 1782, *20*, 453).

[73] Appendix to the *Proceedings of the Board* for 1810 (first and second half years), and *Proceedings* for 1811, pp. 14, 15, 40, 74 ; also *Freeman's Journal* (Dublin), 2 March, 1811. The following unfilial gem from a Memorial by Charles Duffin, Jnr, who, following the custom of the time, held the post jointly with his father with reversion on his father's death, is worth quoting :—" The formal communication of those circumstances " . . . *i.e.* the behaviour of his father . . . " must lead, I fear, to the discontinuance in office of your senior Inspector General ; in contemplating which event, filial affection might be, perhaps, permitted to indulge its sorrows ; but other duties tear me from them, and claim their feelings too ; for that event will call me from the place of *son*, in the numerous family that surrounds me, to undertake the premature anxieties of a *father*." (*Proceedings of the Board for 1810*, second half year, Appendix IV). However, though the son had taken time by the forelock in applying for his father's post before the holder had been discontinued in office, the Trustees abolished the Inspector Generalship.

[74] " We disallowed, in former Accounts, additional Salaries, granted contrary to Law, by the Trustees of the Linen Board, to several of their Officers. In the present Account, the Trustees seem to have paid these illegal Salaries under the name of *Gratuities*. Considering the change of name to be an evasion of the Law . . . we have disallowed them all." (*Report of the Commissioners of Public Accounts for 1815* ; *Proceedings of the Board for 1817* ; Appendix, p. 1).

[75] " We are, perhaps, censurable in allowing one hundred Pounds to a Chymist and one hundred pounds to an Architect, for their annual Services, as being unauthorized Salaries ; but considering these Persons as professional Men or Tradesmen . . . . we conceived we were warranted in allowing the Sums paid . . ." (*Report of the Commissioners of Public Accounts for 1817* ; *Proceedings of the Board for 1819* ; Appendix p. 9).

[76] There appears to be no detailed history of the activities of the Board, but some account is given in *The Rise of the Irish Linen Industry* (C. Gill ; Oxford, 1925), and in *The Linen Trade of Europe* (J. Horner ; Belfast, 1920).

[77] *Precedents and Abstracts from the Journals of the Trustees to 25 March, 1737*, p. 16 ; see footnote 69.

[78] See footnotes 70 and 71.

[79] This method of bleaching was discussed by Higgins in his *Essay on the Theory and Practice of Bleaching wherein the Sulphuret of Lime is recommended as a Substitute for Pot-Ash. Dublin, 1799.* At that time potassium carbonate was " mild pot-ash or alkali " and potassium hydroxide " caustic pot-ash or alkali." Higgins recommended the latter to bleachers for the alkaline boil. He obtained the idea of using calcium sulphide from Kirwan's work (footnote 70). There is a report on the manufacture of " ash " in Ireland in the *Journal of the Irish House of Commons* (1788, 25, CCCCXIII).

[80] *Mémoire sur l'acide marin déphlogistiqué, Journal de Physique*, 1785, *26*, 321. An interesting account of the development of this process is given by Samuel Parkes in his *Chemical Essays* (London, 3rd ed., 1830, 387). *Essai sur le blanchiment*, by R. O'Reilly (Paris, 1801), contains information on the bleaching practice of the time and refers to Higgins' work (p. 122–131).

[81] Mrs Fulhame's book is entitled *An Essay on Combustion with a view to a New Art of Dying and Painting wherein these Phlogistic and Antiphlogistic Hypotheses are proved erroneous.* The two copies in the library of the Royal Irish Academy were presented by Mrs Fulhame to the Academy and to Kirwan respectively. Mrs Fulhame is a mysterious figure in the history of chemistry ; nothing is known of her beyond her book. In his *Experiments and Observations on the Atomic Theory*, 1814 (p. 53), Higgins refers to the " very ingenious treatise " published by Mrs Fulhame who " cautiously omitted mentioning the work from which she borrowed her ideas." Mrs Fulhame believed water was essential for oxidation and reduction.

[82] *Nicholson's Journal*, 1800, *3* (1st series), 253. There are also references to Higgins's use of calcium sulphide in a *Dictionary of Chemistry*, by Aiken. (1807, *1*, 146, 147).

[83] *Transactions of the Dublin Society for 1799*, 1800, *1*, Pt. 1. In this paper Higgins includes from the *Essay* (p. 15), a method for showing the presence of potassium sulphate in potassium carbonate based on the lesser solubility of the sulphate which was a common adulterant of the carbonate.

[84] *Transactions of the Dublin Society for 1800*, 1801, *2*, Part 1, 482. There is a reference on p. 488 to O'Reilly's *Essai sur le blanchîment* (footnote 80), which mentions Higgins's work on bleaching.

[85] *Critical Review*, 1801, *32*, 222–224. The relevant page of the copy of the Journal in the National Library, Dublin, is marked, possibly by Higgins for abstraction. Much of the library of the Royal Dublin Society was transferred to the National Library about 1880.

[86] The Leskean collection was one of the best of its time ; it consisted of 7331 specimens. It had originally been assembled by Nathaniel Gottfried Leske, Professor of Natural History at Marburg. In the Preface to this *Elements of Mineralogy*, 2nd edition, 1794, Kirwan stated that the collection was " the most perfect monument of mineralogical ability now extant." (See also H. F. Berry, *History of the Royal Dublin Society*, 1915, 156).

[87] Acts of the Irish Parliament from 1761 to 1800 sanctioned regular grants to the Dublin Society. Sums of between £5,000 and £15,500 were involved. (H. F. Berry, *History of the Royal Dublin Society*, 1915, 209, and *passim* ; *Journal of the Irish House of Commons* ; *Statutes of the Irish Parliament.*) The Act of 1795 was not passed by the Irish House of Lords, because their Lordships objected to a provision enabling the Society more effectively to recover money due to it.

[88] Higgins (*Phil. Mag.*, 1819, *53*, 405) refers to his appointment as Professor of Chemistry to the *honourable* the Dublin Society by the act of parliament which established the professorship. Isaac Weld (1774–1856 ; there is a memoir of Weld in the *Journal of the Royal Dublin Society*, 1858, *1*, 151–179), who was honorary secretary of the Society from 1828–49 and vice-president from 1849–1856, said in evidence before a Select Committee on the Royal Dublin Society, 22 April, 1836 (p. 20), that Higgins believing he held office by virtue of an Act of Parliament attempted at times to defy the Society, " but, however, they brought him a little to his senses, by showing that they could leave him out at the annual general election for professors and officers." Weld studied under Higgins from about 1799–1801 ; (*Memoir*, p. 162 ; *Select Committee*, p. 35). He did not regard Higgins as a good teacher (*Select Committee*, p. 36 ; see also text at footnote 106).

[89] The sum of £5,500 was granted in 1797–1799 (1797, 37 George III, c. 41 ; 1798, 38 George III, c. 43 ; 1799, 39 George III, c. 45).

[90] In addition to Higgins there was Walter Wade, M.D., Professor of Botany and Superintendent of the Botanic Gardens whose chair was established by the 1797 Act.

[91] It has been suggested by Isaac Weld (see footnote 88) in *Observations on the Royal Dublin Society* (1831, p. 2), and by some biographers of Higgins, that the Irish parliament had a special concern for the Society, because the 1800 Act granting money to the Society received the Royal Assent on August 1, 1800, the day before the Act of Union came into force. Actually 84 Acts received the Royal Assent on that day, and there appears to be no special significance attaching to the date of assent.

[92] See *Transactions of the Dublin Society for 1799*, 1800, *1*. Part 1 ; *Journal of the Irish House of Commons*, 1800, *19*, 35.

[93] *A Syllabus of a Course of Chemistry for the year 1802*, published in 1801, runs to 88 pages and contains material covering 41 lectures. In the " Advertisement " Higgins stated that he had annually delivered the course since his appointment as Professor of Chemistry and Mineralogy by act of parliament in 1796. He also writes that " A work formed upon the arrangement which I have adopted, and which I have found by experience to be free from some inconveniences, attendant upon those of other professors, is already in forwardness, and will, ere long, be submitted to the public judgement." The promised textbook though again mentioned in Higgins' *Atomic Theory* (p. 18), never appeared. The lectures cover a wide field ; a first introductory lecture refers to " the happy effects of chemical philosophy on the human mind." The following lectures deal with attraction, the atmosphere, caloric, gases, meteorology, water, vegetation, brewing, fermentation, distillation, alkalies, acids, earths, metals. There is no definite reference to the atomic theory though later he claimed (*Phil. Mag.*, 1819, *53*, 405), that it always formed part of his annual course of lectures. There are, however, entries such as " On the combustion of sulphur, or its union to oxygen—experiments and theory." There are similar references to " theory " in regard to the oxides of nitrogen and the action of sulphuric acid on iron. The topics which carry this reference are those discussed by Higgins in the *Comparative View* in relation to his atomic theory. There is also in the library of the Royal Dublin Society a syllabus of Higgins' course of 24 lectures, delivered on Mondays, Wednesdays and Fridays between October 1821 and January, 1822. The lectures have advanced with the times, for there are references to the atomic theory and to metals such as sodium and rhodium discovered since the syllabus described above was published. Higgins also refers to his theory of electrical phenomenon which he published in 1814 in his *Atomic Theory*. (See *Phil. Mag.*, 1818, *51*, 81).

The distinguished Irish chemist, Sir Robert Kane (1809–1890) ; see " The Natural Resources of Ireland," Royal Dublin Society, 1944, and *Studies*, 1944, *33*, 158, 316) stated in 1868 before a Commission on the Science and Art Department in Ireland that as a schoolboy he attended lectures in chemistry in the Royal Dublin Society. If this was before 1825, he heard Higgins lecture. He nowhere mentions Higgins in his writings. The minutes of the Dublin Society for 17 March, 1796, record the grant of permission to Doctor James McNevin (*sic.*) to study mineralogy in the Society's cabinet under the direction Mr William Higgins. This may have been Dr William James McNevin (1763–1841 ; for details of his life see McLaughlin, *Studies*, 1940, 29, 73 and *Dict. Nat. Biog.*), who was removed from his office of Physician to the House of Industry, Dublin, for his part in the patriot activities which culminated in the rising of 1798 (see *Minutes of the Meeting of the Acting Governors of the House of Industry, Dublin*, 15 November, 1798). He was banished by the Government and, after travel on the Continent, went to the United States where he became Professor of Chemistry in the College of Physicians and Surgeons of the University of the State of New York (1811–1826). He is best known for his early recognition of the atomic theory. In his " Exposition of the Atomic Theory" (*Annals of Philosophy*, 1820, *16*, 195–214 ; 289–293 ; 338–350 ; reprinted in the *Journal de Physique*, 1821, *92*, 274–288; 376–401; 444–458) he criticises Higgins's lack of industry in not persevering with the development of his early ideas on the atomic theory and adds that " celebrity without labour is neither legitimate nor attainable in the walks of science." It is noteworthy that both McNevin and Sullivan (footnote 2), were critical of their fellow-countryman. As pointed out above McNevin may have had personal contact with Higgins.

[94] The total annual expenses of the Department of Mineralogy and Chemistry (one Professor) in 1803, was £643 14s. 6d. In 1819 when there were Professors of Chemistry, Mineralogy and Mining the annual cost was about £1,500.

[95] Further details of the work of the Committee are given by F. G. H. Tate in *Alcoholometry* (London, 1930 ; p. 5). The famous chemist, W. H. Wollaston (1766–1828 ; see *Dict. Nat. Biog.*), was a member. The author's thanks are due to Dr G. M. Bennett, F.R.S., Government Chemist, London, who kindly made available the original minutes of the Committee, and also provided photographs of a typical entry.

[96] Dr J. O'Reardon in his life of Kirwan (*National Magazine*, 1830, *1*, 333), says that Samuel Wharmby, a native of London, was for forty years Kirwan's assistant in his numerous experiments. He died a few months after Kirwan. The Samuel Wharmby who was Higgins' assistant, was probably a relative. (See also M. Donovan's *Life of Kirwan* ; *Proceedings of the Royal Irish Academy*, 1847–1850, *4*, Appendix 8, p. cxiv).

[97] The currencies were amalgamated in 1821.

[98] See, for example, *Minutes of the Committee of Chemistry*, 2 February, 1818.

[99] See *Proceedings of the Royal Dublin Society*, Vol. 66 (4 Nov., 1819–21 August, 1820), pp. 101, 148 and Appendix.

[100] See Deed No. 1854/20/203, dated 10 August, 1854, in Registry of Deeds, Dublin.

Würtemberg at Limerick, 1690

by JOHN JORDAN

AMONG the manuscripts in the Royal Library, Copenhagen, is one of ten folio leaves, all except one of which are written upon on both sides. It is contained in a parcel of folio MSS labelled "Kall, fol. 86", all of which deal with the exploits of the Danish auxiliary contingent in Ireland in the Jacobite war. Some other MSS in this lot were transferred to the State Archives (Rigsarkivet) in 1889, but this remained in the Royal Library, and is still there.[1]

The MS is simply headed "Journal", but its contents make it clear that it is a diary of the siege of Limerick in 1690. It is in German, the king of Denmark is directly addressed in several places, and comparison with many others of his signed letters and reports preserved in the State Archives and in the Royal Library leaves no doubt that it is in the handwriting of the Duke of Würtemberg, who commanded the Danish contingent.

Ferdinand Wilhelm, Duke of Würtemberg-Neustadt was, like Schomberg, a German aristocrat who had turned professional soldier. Born in 1659, he entered the Danish service at an early age. He fought with the Imperial army under Prince Eugene of Savoy against the Turks and French between 1681 and 1687. At the age of thirty he was a lieutenant-general, and in 1689 he was given command of the Danish contingent of about 7,000 men which was hired to serve with the English army. When the war in Ireland ended he took his men to Flanders, and fought at Steenkerke and Neerwinden. In 1694 he defended Nieuport against the French, and he fought with distinction at the siege of Namur. After the Peace of Ryswick he was appointed governor of Dutch Flanders. In 1698 he joined the Saxon-Polish service with the rank of Field-Marshal, and by a series of skilful manoeuvres he recovered most of Podolia from the Turks. In 1700 he commanded the Danish forces in Holstein against the Swedes, but at the Peace of Travendal he returned to Holland and died there on 7 June 1701.[2]

The Danish contingent at Limerick in 1690 consisted of a battalion each from the Danish Guards, Queen's, Prince Frederik's, Prince Christian's, Prince Georg's, Jutland (*Jydske*) and Fyen (*Fynske*) regiments of infantry, and of three regiments of cavalry made up of detachments from all the Danish regular cavalry units and known by the names of

[1] *Katalog over Det Kongelige Bibliotheks Handskrifter Vedrörende Norden, saerlig Danmark* (ed. E. Gigas), Copenhagen and Kristiania, 1915, iii (2), 25–6.

[2] See articles on Würtemberg in *Allgemeine Deutsche Biographie*, vi, 710–11, by Pfister and in Brockhaus, *Konversations-Lexikon*, 1908 ed., iv, 564.

their colonels, Juul-Rysensteen, von Donep and Sehested. All these regiments were professional (*hvervede*), not conscripted, units, for King Christian V had converted the old " national " regiments, organized on a militia basis by provinces, into regular troops organized on a permanent basis.[1] The men were still mainly Danish subjects, who included a good many German-speakers, but many of the officers were Germans or French Huguenots. The official language of the army, as of the Danish nobility and court of the time, was German.

The journal is about 8,500 words in length. Much of it consists of details of secondary technical interest, but it has considerable value on a number of points in connexion with the first siege of Limerick that have been in dispute. Würtemberg was a professional soldier, reporting to the King of Denmark. He was probably concerned to put his men's performance and his own in the best light, but he could be critical enough of his allies and of his commander, William III ; he is probably as impartial a witness of the siege as any who has been forthcoming up to now, and his narrative must have been written close to the actual event. The following points he mentions are of interest. I give his words ; my comments are in square brackets.

> Thursday, the 14 Aug. The King reconnoitred the town on the right side, but because the King exposed himself too far, the enemy laid an ambuscade with some dragoons and fired a full volley at the King so that Count Menard de Schomberg was thrown from his horse. The same day there came out of the town a captain of the reformed religion, who reports that there were about 14,000 men in the town, but not all armed. The French were at Galway, awaited their ships in order to return to France.

On 15 August the Williamite camp was moved to the left in order to enclose the town, and Würtemberg's force was posted near the river, " since reinforcements can come in by water ". On the same day, " because there was intelligence that the enemy had passed the river with strong parties, Lieutenant-General Ginckel together with Major-General Lanier was detached to cover all the convoys with 16 squadrons ". The only reference to the Ballyneety affair is on Saturday, 16 August, when Würtemberg says that of the 18-pounders six were brought into camp, mounted on new carriages and made available for service. On the same day Würtemberg was ordered to prepare to open the trenches with seven battalions, and he gives interesting details of his orders for the working parties and the guard of the trenches.

On 17 August the trenches were opened, and a grenadier detachment under Captain Arenswald took a stone redoubt on a height to the left which enfiladed the working parties. Towards morning, shortly before

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[1] See Thaulow, *Den Danske Soldat Gennem Tiderne*, Copenhagen, 1946, 95–6, and Vaupell, *Den Dansk-Norske Haers Historie*, Copenhagen, 1872, i, 222 *et seqq.*

the relief, the Irish made a sortie and drove back the outposts and the working parties.

> Likewise, Brigadier Bellis [i.e. Bellasis's] regiment was driven back and many of the men threw away their muskets. I advanced, however, at once with the Danish Guards, Jutland and Nassau and restored the situation. Our (i.e., the Danish) workmen did not give way, but towards morning were under better cover than the others. The other regiments cannot work like the Danes.

On 18 August, Douglas [Würtemberg spells his name Duglas] who had relieved Würtemberg with seven battalions in the trenches at nine in the evening, was ordered to take a large Irish redoubt and make a lodgement there with a communication to the main approaches.

> The grenadiers were detailed for this purpose, and with them Lieutenant Unger of the Fünische (*Fynske*). Because it was very dark, however, some confusion arose, as, while the redoubt was being attacked the enemy made a sortie with the cavalry, were [i.e. the Williamites] driven back with a loss of 100 dead and wounded. The greatest confusion was amongst the English, inasmuch as many threw away their muskets, to be found later by the Danes. This confusion resulted in not much work being done in the approaches.[1]

Because of what had happened on the 18th, William ordered next day that the reliefs should take place in daylight, and accordingly Würtemberg relieved Douglas at four in the afternoon. On the 20th Würtemberg's men carried the large redoubt by a very carefully prepared attack, killing 60 or 70 of the defenders. On this,

> the enemy opened upon it a frightful fire from the town, both from the counterscarp and from walls and towers.

Würtemberg mentions in several places the heavy fire the besieged were able to maintain, and they seem to have been better supplied and served in this respect than most other accounts of the siege suggest. On the 21st the garrison made a sally which was driven back. An Irish captain who was captured on the 20th in the redoubt told William that the Irish had formed 39 battalions into 13 of 1,000 men each, and that in the city were also 1,200 horse and 1,000 dragoons.

> Monday, the 25 Aug. The heavy rain continued, so much so that the approaches were filled with water. For that reason many went out of the trenches, for which reason over 30 were killed and wounded . . . The rain continued until night, so that the approaches collapsed a great deal (*dass also die approchen sehr einsuncken*), for which reason there was work enough to do the whole night through to repair the trenches and make an outlet for the water . . . because the rain had so much deepened the morass between the left and right wings, that almost no communication

[1] Jahn, *De Danske Auxiliaertropper, En Krigshistorisk Udkast,* Copenhagen, 1840, 53–4, appears to interpret this passage as meaning that it was the English who were driven back with the loss of 100 men, and this seems to me to be the natural interpretation.

between them was possible, the left wing which stood on the side of the water, was ordered to move its camp.[1]

On Tuesday, 26 August,

About 4 o'clock in the afternoon Lieutenant-General Douglas relieved the approaches, and a strong cannonade was maintained so that a fair breach was made. When I came to the King in the evening to make my report, the King declared that he wished to attack the counterscarp in the morning with those same battalions which were in the approaches. I made free to protest to the King that it would be very difficult to attack the counterscarp in order to make a lodgement, that it was much too close to the wall, they could greatly incommode the people with stones, but if one were willing to wait a couple of days longer, in order to enlarge the breach, a general assault could be attempted because there would be no ditch [the stones from the breach having filled it] and would (*sic*) lose fewer people. This was contradicted by several, and the decision already taken was adhered to. Towards evening the Duke of Berwick, who is lieutenant-general in the Irish army, sent a trumpeter to me with a letter, sent also a quartermaster, who was taken of Your Majesty's troops, with the request to remember the old friendship in Hungary,[2] to do him the favour that there might be sent back to him a corporal of the *garde du corps* who was taken at Dublin.

Wednesday, 27 August. It was finally determined to attack the counterscarp about 2.30 p.m., and if they should gain a lodgement there, that I should relieve Douglas as usual. I protested once more to the King in the presence of His Highness Prince Georg, that they should be good enough to postpone the attack, and to take into consideration what had previously been reported, at the same time, because the breach was of such a size (*so beschaffen*) to enlarge it so that 16 men could attack abreast, at the same time because the people had already stood for a night in the approaches and were therefore rather fatigued, to do so with fresh battalions. It appeared however that it was desired that the English should do something too, in order to avoid jealousy.

Douglas made the following arrangement. First 9 grenadier companies were to attack with 100 reformed French officers who were to be supported, on the right hand by one of the King's Guards battalions and the Douglas regiment, on the left hand they were to be supported by the Fyen and Brandenburger battalions, the regiments of Stuart and Cambon were to support the others. As soon as I marched up with the 7 battalions which were to relieve the trenches, the attack began. The resistance was at first very strong, for they had prepared for it and had previous intelligence (*kundschafft*) of it, and so an army was attacked.

[1] Würtemberg's contemporary evidence flatly contradicts Berwick (*Mémoires*, Paris, MDCCLXXVIII, i, 78–9) who says that no rain had fallen at Limerick for at least a month before the assault or for three weeks afterwards. There seems no reason to doubt the accuracy of Würtemberg's statement made so soon after the event.

[2] Berwick and Würtemberg had both served in Hungary with the Imperial forces against the Turks (see Note 1 above for Würtemberg, and for Berwick his *Mémoires*, I, 4–20).

They made a very strong fire, of which few experienced officers had seen the like. In spite of all this they were driven from the counterscarp, and because the enemy retired through the breach they were pursued, and [*our men*] attacked the breach without orders. They carried the breaches (*sic*) and the enemy began quite to give way, but because Douglas had no orders in advance to attack the breach, the good people were not supported. The Fyen battalion did wonders, and held out for three hours under fire without one man wavering (*ohne dass ein Man bransliert hatte*). Because the engineers were now mostly dead or wounded, the lodgement on the counterscarp made no progress, and many people were killed, because the defences of the gates were not sufficiently engaged, and the enemy still had two batteries which enfiladed them from the rearward (*zwey batterien so die leutte ruckweiss flanquierte*). The Guards lost six captains, the Brandenburg regiment was almost entirely destroyed, because it came upon scattered mines. While the attack was going on I sent Major-General La Foret to the King, to request, because it was going hard with the lodgement on the counterscarp, that the breach should be attacked and an attempt made to become masters of the town, inasmuch as the soldiers all showed great eagerness for this. Count von Solms opposed this to the King with the opinion that it was too late. Meanwhile the enemy gained time and re-formed his people and made a sortie, on which account His Royal Highness Prince Frederik's battalion advanced to relieve the Fyen battalion, came under a heavy fire, but did famously. Then because night fell, the attackers withdrew to the approaches. Captain Suzannet of the grenadiers was shot dead beside me. In all today there were killed and wounded of Your Majesty's troops 441. In all of the English and Dutch and French troops 1883, including 60 captains, of the three French regiments of officers alone, 197.

Würtemberg then gives a list of the Danish casualties by units. He gives among the killed the name of the colonel of Prince Frederik's regiment ; he spells it Callnay, but the *Dansk Biografisk Lexikon* (Bricka), vii, 183–4, gives the full name as Wulf Heinrich von Kalneyn ; H. J. Barstad in his book *Om Nordmaends Deltagelse i det Danske Hjelpekorps i Irland og Flandern, 1689–1697*, Oslo, 1928, 28–29, says without citing his evidence that Kalneyn was an Irishman by birth, probably a member of an Ulster Protestant family. The name Kalneyn may be a corruption of Callanan, and Kalneyn has no very German or Danish appearance.

Würtemberg says that during the night after the assault all was quiet. His men repaired the trenches, which had been ruined by the advance and retreat of the storming party.

About 10 in the morning Count von Solms came to me in the approaches, and desired to know, in the King's name, what there was to be done, and whether or not it should be decided to raise the siege. I replied, why not continue with the bombardment and enlarge the breaches, but also increase the size of the batteries. He represented, however, that there were no more cannon balls available, but that with

the last convoy there had been sent unfilled bombs, instead of cannon balls, which were no use, because we had [only] one fire mortar. Because it was suspected that some wounded were still lying under the dead, a drummer was sent in to desire an armistice to bury the dead. After he had remained a couple of hours, he (*sic*) sent back with him a note on a cartel (*Scharteck*) without signature, *Envoyes un Tambour a quatre heure (sic) a la teste de votre trenchee (sic), il y aura depuis 4. jusqu' a 5. une suspension d'armes pour retirer vos morts que votre Tambour fasse trois appelle (sic) J'y seroy moy meme, et vous n'approcherez pas de la place de vingt pas et l'on vous portera vos morts du chemin couvert* [Send a drummer at 4 o'clock to the head of your trench, from 4 to 5 there will be a suspension of arms to remove your dead let your drummer beat the *appel* three times. I shall be there myself, and you will not approach within twenty paces of the fortress and your dead will be brought to you from the covered way]. Because however it was regarded as being in a *ton de hauteur,* the armistice came to nothing . . .

Friday the 29th. The enemy sent out of the town some prisoners to be exchanged, including an ensign named Bourgué of Colonel Bellcastel's (*sic*), who was taken in the storm of the before yesterday, who said that the commandant Boislo [Boisseleau] said that if it had been pressed, we (*man*) would have been masters of the town. A grenadier captain was killed in the town with 30 grenadiers. The Commandant made his dragoons charge the garrison to bring them to a stand again. It was resolved this day to raise the siege, because there was a want of balls and powder. This cruel resolution greatly affected the King. Towards evening I relieved L. General Duglas and I received orders after the artillery, ammunition and equipment had been removed to evacuate the approaches. 3 of the Danish Guards were shot.

Saturday, the 30 the approaches were accordingly evacuated in good order. The King left the army, and took the route by way of Waterfort (*sic*). On his departure the King was very gracious and expressed his thanks for the demonstrated good services rendered by Your Maj.'s troops. Towards afternoon the enemy made a sortie against our outposts (*plottons*) and pressed the English. Our grenadiers supported them and repelled the enemy. The heavy baggage and artillery marched off today. Sunday the 31 Aug. The retreat was effected in the following manner. First the remainder of the baggage marched off, with the artillery, and what could not be brought off was burned. The cavalry throughout (*alzeit*) was mixed with the infantry, and the camp was levelled. I had the rearguard with Your Majesty's troops and marched 5 miles, the enemy followed only at a long distance. Towards evening the dragoons brought in 3 prisoners including 1 lieutenant who unanimously (*einhellig*) reported, that in the end they were in want of powder and bread. It is therefore to be deplored that so little information was available and that the necessary *requisita* were wanting to us. Thus would the Irish war have been ended at once.

Würtemberg's evidence goes a long way to settle the question how far bad weather forced William to raise the siege. It seems that while

there was very heavy rain before the assault on 27 August, it was not this rain but a shortage of ammunition for the siege train that determined William's decision. Ballyneety had been even more successful than most of us have been taught to think. Würtemberg's account of the 27 August as merely an attempt to effect a lodgment on the counterscarp and not an assault on the town itself must be considered carefully in view of the general reliability of his account, even though it differs from other contemporary authorities, and his story of his protest to William about the insufficiency of the preparations has the ring of professional sincerity about it. The main new item of information otherwise is that the Irish garrison were able to maintain so surprising a volume of fire during the siege.

JOHN JORDAN

Reviews

RELIGION

ORIGEN: CONTRA CELSUM. Translated with an Introduction and Notes, by Henry Chadwick, Fellow and Dean of Queen's College, Cambridge. xl and 531 pp. Cambridge University Press, 1953. 60/-.

ABOUT the time that Marcus Aurelius was holding his post-mortem on Christian martyrdom, and attributing the "ill-considered courage" of his victims to "mere obstinacy", another pagan philosopher was examining the tenets and practices of the Christian faith, and pronouncing them new-fangled, repulsive and subversive. It was rather late—about 180 A.D.—for an *Encyclopédie* to appear, since the Terror had been raging sporadically for over a hundred years. But it was still early enough to provide us with a document of intense historical interest, the first articulate reaction of cultured paganism to the advent of Christianity. Its author Celsus, while hardly a worthy heir to all the ages of Greek philosophy, was able and well-informed, with an acute perception of the distinct and proper features of Christianity. The crude calumnies with which vulgar paganism had explained to itself its instinctive hatred of the new faith, charges of atheism, cannibalism and obscenity, are replaced by studied criticisms which bear mainly on the Incarnation, the catholicity of a Church which welcomed the ignorant and sinful, and the supposed rejection of social and political values by Christians. Tacitus had seen Christianity condemned under Nero *propter odium humani generis,* as an enemy of the human race, and for Celsus too it was primarily a disruptive force, impossible to reconcile with society as he knew it. The absolute State, where there was no God but Caesar in the last resort, could have no place within its borders for a people apart, whose ultimate allegiance went to a law not of this world and not subject to the vagaries of the human will, popular or imperial.

Celsus's objections have not "dated", in spite of their antique dress, nor has Origen's reply. As Mr Chadwick rightly says, there are few works of the early Church which can compare in interest or importance with it. In this

product of Origen's mature scholarship, one of his last in fact, before he himself died of the rigours of imprisonment and torture (in 253), Origen sums up the apologetics of the 2nd and 3rd centuries and enriches them with his own vast learning and unique genius. In translating this lengthy and often difficult work, Mr Chadwick has done a mighty service for all students not merely of Christian history and theology, but of ancient philosophy and religion. It is a hundred years since an English translation, not very accurate or intelligible, appeared. This new one incorporates the approved results of continuous modern research into text and meaning. A special tribute must be paid to the publishers and printers for the very handsome book they have produced, which without being bulky or unwieldy, incorporates in a single volume of an open legible page a work which I have never seen in any language except in two volumes.

The introduction which Mr Chadwick provides is a masterpiece of comprehensiveness and good judgement on the main questions which arise in connexion with the work : the philosophical background, the dating, the person and theology of Celsus, the reconstruction of the text of his polemic, the manuscript tradition, bibliography. Origen's method, as described in the introduction and pin-pointed by erudite footnotes throughout the work, is to draw on all available schools. He uses the arguments of the Academy when refuting the Stoic effort to defend traditional polytheism by allegorizing its myths—a rationalisation which appealed to Celsus. And he uses the arguments of the Stoa to defend the doctrine of providence and man's central position in the universe, when Celsus inclines to the views of the Academy or Epicurus. But Mr Chadwick is careful to point out that Origen's attitude was fundamentally religious. Origen can begin by asserting that the philosophical defence is really superfluous, because he does not present Christianity merely as an enlightened ethical system, but as a historical divine fact. Just as Our Lord, says Origen, could be silent before Pilate because his life and work spoke louder than words, so too the Church could dispense with debate and be content to point to its superhuman achievement in " rescuing so many men all over the world from the flood of vice ". It may be, as Mr Chadwick says, that the subsequent influence of the work was not great, but surely that is true only of its subsidiary speculation. The appeal to the extraordinary propagation of Christianity, not just as a doctrine but as a living force actually raising sinners to virtue and even the heroism of martyrdom was to Origen the best confirmation of the eye-witnesses' gospels : much as the actual history of Hellenism guarantees for us the career of Alexander, at least as well as Arrian's late histories. The argument has had a deep and lasting influence on Christian apologetics, in the developed and emphatic form which Origen gave it, till it finally passed into the Vatican Council's chapter on the spread, stability and holiness of the Church as its own testimony to its divine mission.

The section on the " theology " of Celsus gives helpful pointers. Mr Chadwick sees in him inspired not so much by a Voltairean hostility to Christianity as by a sincere loyalty towards " the ancient religious tradition of mankind's most pious races and wisest men ". Hence the translation of the title which Celsus gave his work as " The True Doctrine ", in preference to the usual " True Discourse ", which would imply that he was interested only in giving the damning facts about Christianity. Celsus's attitude would rather be :

we all believe in a certain something, and why are you Christians so exclusive and exigent? But would such " liberalism " be compatible with his virulent contempt for all things Christian, and with his constant gloating over the catastrophic situation of the Christians, " always on the run ", as he sees them, " unless they are arrested and crucified? " His brief and perhaps perfunctory exhortation at the end, that they should give up their nonsense and become good citizens, is hardly conciliatory enough to create an atmosphere of good will.

Mr Chadwick's painstaking discussion of the textual tradition brings a long debate as near a conclusion as is possible in such matters. The excellent notes are succinct and well-chosen, and elucidate many obscure problems and allusions. Our only quarrel with them is that they seem to have left the author too little time for the great work of translation. This is competent, and admirably accurate for so sustained an effort, but it is hardly elegant, does not always read smoothly, and at times does violence to English idiom. Sometimes it could be misleading, e.g., " some utterances of Jesus belong to the first-born of creation with him . . . while others belong to the supposedly human Jesus " (II 25), " the apparently human Jesus," (VII 16). The first phrase has a Nestorian, the second a docetic ring. Neither does justice to Origen, nor indeed to the Greek, which means " the human etc. aspect ", though of course Mr Chadwick gives plenty of material for the silent correction which the reader is left to make. Then, there is an awkward mixture of modern colloquialism with stilted and archaic diction. The speakers use such words as " despitefully " and " evidences," but can " warn off," " get muddled," " put up with," " the intelligentsia " and deride a doctrine as " old stuff ". " I'll be damned if " (p.478) the effect is not curiously stimulating. But this slight unevenness in the translation can in no way diminish the warm gratitude we owe to the author for his admirable presentation of this great Christian classic.

KEVIN SMYTH, S.J.

THE EPISTLES IN FOCUS. By B. Lawler, S.J. Pp. 165, two maps. Dublin : Clonmore and Reynolds. 1953. 15s.

IN his preface to this popular introduction to part of the New Testament, Fr Lawler quotes from the homily on Romans where St John Chrysostom expresses his regret that " all do not know St Paul as they ought, and some are so ignorant that they are not quite certain how many epistles he wrote ". No doubt the people of Antioch had the excuse that many could not read and codices were few. But since they could follow, apparently with enjoyment, the Greek of Chrysostom's homilies, they could easily have had the scholar of the family read to them and at least learned the titles of the epistles. But could they have learnt much more than that? Even in the apostolic age they were a problem, " containing as they do " (2 Peter 3 : 16) " matters very hard to understand, which the ignorant and unstable wrest, like the rest of Scripture, to their own destruction ". If the epistles were only treatises, like the epistles of Seneca, patient reading might have assimilated them. But they were personal documents, dealing with the problems of communities which lived under unique conditions, and outside their historical context have much of the obscurity which family letters have for outsiders. It was peculiarly St Paul's genius to take everyday conflicts and re-state them on the highest levels of

theology. That made it all the more necessary to know his starting-point if one was to follow his conclusions.

The commentaries of Chrysostom were therefore very necessary if the plain people of Antioch was to appreciate St Paul. Fr Lawler addresses himself to the plain people of Ireland in a laudable and competent effort to facilitate the resolve which he kindly assumes present in most of them :" to read the epistles some day ". He is alive to the repugnance which most people feel against keeping two or three other books open while they are reading one, and hence dispenses himself rightly from putting forward an erudite apparatus of references. His object is to let the research of the Prats and Lagranges filter down in palatable form to the reader for whom study of the New Testament is not a life-work but the occupation of a leisure hour—leisure here being taken in its best sense, the time one works to win. Using the Acts of the Apostles for historical background, he fits the epistles into the careers of the authors and the situation of the recipients, and gives for each epistle a guiding-line for the doctrinal content. The history is clear and precise, too precise perhaps at times, the doctrine is presented simply and objectively, and with a certain happy liveliness. The summaries are brief enough not to leave the reader with the unworthy feeling that he can now dispense himself from reading the actual text.

KEVIN SMYTH, S.J.

LITERARY CRITICISM

MARIA CROSS : Imaginative Patterns in a Group of Modern Catholic Writers. By Donat O'Donnell. London : Chatto and Windus. 1954.

THIS book is made up of nine short chapters, eight of them dealing with individual modern Catholic writers, and the ninth being an enquiry into certain characteristics which these writers are discovered to possess in common. The writers are Francois Mauriac (born 1885), Georges Bernanos (1888/1948), Graham Greene (born 1904), Seán O'Faoláin (born 1900), Evelyn Waugh (born 1904), Charles Péguy (1873/1914), Paul Claudel (born 1868), and Léon Bloy (1846/1917) : five French, two English, one Irish, most of them novelists, most of them still living, and all of them in one sense or another ' converted ' to Catholicism. The author, who is writing under a pseudonym, is an Irishman, living in Ireland.

Mr O'Donnell does not choose to give us biographical sketches of these writers, nor even a criticism of their work from a literary point of view. He concentrates on one thing only : on discovering the dominant pattern in the imaginative work of each of them, examining if these eight patterns have something in common, and asking how that common thing is related to the Catholicism deliberately professed by these writers.

One gets the impression that the book grew, so to speak, out of the first chapter, which is a very sympathetic study of the work of Mauriac. One of the most interesting characters created by this writer, Maria Cross—after whom Mr O'Donnell's book is named—is here represented as the key to Mauriac's work : Maria symbolizes the conflict between the flesh and the spirit, between an active corruption in the body and an inert domination of the mind by the Cross. Mr O'Donnell was quick to perceive that this conflict is to be found not only in Mauriac, but in many Catholic writers of our times.

Accordingly he extended the scope of his enquiry to embrace certain writers, whose work has agitated the consciences of many Christians. In effect Mr O'Donnell faces up to a problem of present-day letters : the emergence of a number of convinced Catholic writers who seem to many to exploit pornography in order to inculcate piety—are they sincere, and if so, can they at the same time be regarded as good Catholics ? In a sense, do they treat of these problems in this way, because they are Catholics ?

It is impossible here to follow Mr O'Donnell through his fascinating enquiry into the dominant patterns in the imaginative work of his chosen authors. He shows, for example, how Bernanos is preoccupied in revealing the evil that can follow intellectual curiosity ; how Graham Greene is concerned to show the strange consequences of a peculiar pity ; and how Evelyn Waugh glories in the piety, cruelty and snobbery of the patrician adolescent. The studies of the role of memory in Péguy, of the symbolism of gold and water in Claudel, and of passion—now love of woman, and again love of the Cross—in Bloy, reveal Mr O'Donnell as an unusually perceptive and intelligent critic. Some of these essays are brilliant, although from time to time too little account is taken of certain influences upon these writers—as for example the influence of Bergson on some of the French. But as a whole the book is undoubtedly arresting and important. I shall have to content myself here, however, in saying something of Mr O'Donnell's study of Mauriac, with a word on his treatment of Seán O'Faoláin, and with a few remarks on the imaginative pattern shared by these writers and its possible connection with Catholicism.

According to Mr O'Donnell, Mauriac's greatest work is *Le Désert de l'amour* which was written in 1925. Everything written before led up to this and everything subsequent was a decline. It is not without significance that shortly after the writing of this book Mauriac suffered a profound change in his attitude towards Catholicism. Up to then he was unshaken by Catholic and other critics who charged him with writing pornography while using the excuse of piety. He had seemed to accept Gide's doctrine that " no work of art could be produced without the collaboration of the demon ". We have Mauriac's own words for it that he depicted evil with a secret collusion, because he was describing attractions which he felt. Then came the great change. It meant the acceptance of Maritain's dictum that an author must portray evil at the distance where his art and soul are pure enough to do so, without conniving at the evil. With the acceptance of this view, the hot and sensuous world of Mauriac dissolved, and with it, if we are to believe Mr O'Donnell, went his reputation. He had chosen the side of God, and as Sartre says " God is not an artist ; neither is M. Mauriac." *On n'en parle plus.*

Mr O'Donnell's view on Mauriac has been too greatly simplified. Not everyone would believe with him that a decline set in with Mauriac after *Le Désert de l'amour*. In particular there would be wide disagreement with him in his low opinion of *La Pharisienne*, as can be instanced by the preeminent place given to it in an estimate of Mauriac's work in the *Times Literary Supplement*, 26 March 1954. Mr O'Donnell himself has to exempt *Le Noeud de vipères*, written in 1932, from the decline : it seemed to promise even better things : a fruitful phase in which the novelist would be concerned not so much with youthful storms as with the more complicated relations of adults and with the economic and social correlatives of passion ".

The decline, notwithstanding Mr O'Donnell's opinion, is quite simply not proved. Even the change following on the ' conversion ' is not, as Mr O'Donnell too simply puts it, one from Gide to Maritain, from the demon to God. The change is there ; but it is more subtle. Never before *Le Désert de l'amour* was Mauriac completely of the mind of Gide ; and never afterwards was he completely of the mind of Maritain. Gide's talk about collaboration with the demon being necessary for the production of a work of art has been called Manichean blasphemy and in any case its truth is not demonstrable. Maritain's rigidity is not Catholicism as applied to all men ; for Catholicism is not a cut and dried rationalism even in ' philosophy ', much less when it is considered from the point of view of its redemptive mission to erring mankind. In all of this Mr O'Donnell displays an uncharacteristic lack of subtlety and a surprising simplicity in making so much uncritical use of opinions of Gide and Maritain. It is a pity that he should have bothered so much about this more biographical approach to Mauriac ; partly because, as I have tried to say, the results are false and misleading ; partly because it distracts one's attention too much from Mr O'Donnell's great skill in analysing, even evoking to a remarkable extent, the atmosphere and situation of Mauriac's novels ; and partly because this concentration on biography helps little towards the main purpose of the study of Mauriac and the other writers : the discovery of the imaginative pattern in their work. Mr O'Donnell is guilty of some confusion in this first chapter, a confusion which reemerges in the last chapter although he does make a final attempt there to clear things up.

The inclusion of a chapter on Seán O'Faoláin does credit, some might think, to Mr O'Donnell's patriotism. The chapter itself, however, does little credit to anyone. It is entitled ' The Parnellism of Seán O'Faoláin,' and by Parnellism is meant the fight for emancipation in the national sense, in the spiritual sense, and in what is sometimes called the ' moral ' sense. The fight, is a local one. Mr O'Donnell says that Mr O'Faoláin neither affirms nor denies anything of universal importance . . . this glorified parish-pump is not the ' nationalism ' of Dostoevsky or Yeats or even Stefan George, which was in each case the vehicle for a general idea, apocalyptic or Messianic." He sums up by saying quite simply that Mr O'Faoláin is parochial. One might say also, of course, that Mauriac is parochial. All writers are parochial and universal at the same time : it is a question of treatment. It is not impossible that Mr O'Donnell has fallen to some extent into the error, that only local colour which is foreign can be a charming *decor* for universal ideas. Nevertheless, if the author held those views about Mr O'Faoláin, he might have done well to omit consideration of Mr O'Faoláin entirely in this context—especially since his *oeuvre* does not quite fit in with the general theme of the book.

In the final chapter of *Maria Cross* an attempt is made to discover something common to the imaginative patterns of the Catholic writers discussed. Mr O'Donnell fancies he discerns in them all, in one way or another, what he calls a triple exile and the female cross.

By the triple exile he means that these writers feel themselves to be out of sympathy with the society in which they are, that they are out of sympathy with a world which does not respect the imaginative, and finally that they are full of nostalgia for the world of their childhood. In connection with the first of these exiles, Mr O'Donnell is careful to indicate

that the ideals of the writers concerned are in conflict : the bourgeois world so loved by Waugh is the one most detested by Bloy. On the second point, the exile from imagination, Mr O'Donnell raises the interesting, but perhaps far-fetched, question as to whether or no all these writers are Fascists or National Socialists rebelling against the Goddess Reason ? Half of them he convicts, and half with some doubts he decides to acquit. The third exile, that from childhood, is the one most obviously shared by all. Unfortunately it is not at all clear what the triple exile has to do with Catholicism precisely, and Mr O'Donnell seems to have been aware of this too. He likens himself to one conducting an autopsy on the contents of Mahomet's coffin, which is not only empty, but not there at all ! Nevertheless there is a glimmering of the final solution here ; for, as we shall see, these writers have in Catholicism the best means of combating their feeling of exile.

Coming to what Mr O'Donnell calls ' the female cross ', we discover that woman—and a mother at that— is, according to these writers behind all conflicts and tensions. There is some difficulty about Mr O'Faoláin, since in him there are found to be two women and neither bodily : Mother Ireland and Mother Church. Bloy's equation of woman and the Cross, of human passion and the Passion of Christ, is on this point the most illuminating. For him woman *is* the cross : he says " Man remains nailed to his mother. When he seeks to break loose, to find paradise in loving another woman, he becomes aware of his crucifixion, a crucifixion in which the cross (the woman) suffers equally with the sacrifice (the man)." Again Mr O'Donnell has been clever, perceptive and interesting—but has he established any connection here between the work of these writers and Catholicism ? Surely men knew of Jocasta before they knew of Christ ?

In the end Mr O'Donnell asks himself point blank why should such writers as Mr Waugh and Mr Greene deliberately profess Catholicism in their writings ? The answer given is clear but not, perhaps, sufficiently developed : through their acceptance of the Catholic cross, he suggests, they turn what might have been a private and incommunicable suffering into public utterance and communion with others. One would like to hear much more on this point from the author of *Maria Cross*. But at least he has indicated, if not quite sketched, a solution for us.

Mr O'Donnell has great talent for this kind of important criticism. One hopes that he will continue to employ it, with even greater success.

JOHN J. O'MEARA

HISTORY AND POLITICS

THE LEGACY OF LUTHER. By E. W. Zeeden. London : Hollis & Carter. 1954. 25s.

THERE is a well-known statement of Hegel's that 'the owl of philosophy is only heard when the shadows of twilight are falling '. It has also been said that historical events and persons cease to exercise any but the most faint and indirect influence when the historians begin to write about them. This, however, is certainly an exaggeration ; it is more true when the historians become interested in the historiography of those events and persons.

The Legacy of Luther is a book written by a Catholic lecturer in modern history in the University of Freiburg im Breisgau, Germany, and it is devoted

to a study of the views of Lutherans, between Luther's time and the beginning of the nineteenth century, on Luther. Among those cited are the following : Melanchton, Leibnitz, Flacius Illyricus, Seckendorf, Spener, Frederick the Great, Herder, Hamann, Lessing and Goethe. The author omits the nineteenth century, apart from a few generalizing remarks in the concluding chapter which is devoted to (a) recapitulation and (b) an analysis of the effects of the subsequent development of Luther's comprehensive and often incompatible doctrines.

One word may immediately be said in criticism of the English version. If the book is a good one, there seems no particular reason, apart from the question of price, why it should be abridged. The present volume does not extend beyond a moderate 221 pages, and if the German version had been more fully translated, no more than another 100 or 150 pages need have been added. Secondly—which is perhaps more important—the footnotes and the documentation included in the original are almost entirely missing in Miss Bethell's translation. This has the unfortunate result that for many of the quotations used the reader rarely knows the context out of which they have been taken, or how far they represent full and adequate selection. This defect is especially annoying on account of the virtues which the book has. It is fair and objective in what concerns the assessment of Luther's own personality and his doctrine. There is no attempt to depreciate the historical greatness of the man or the subjective sincerity which inspired him to undertake what was the greatest revolution of his age, if not of modern times. The abbreviations introduced also break the continuity which linked the original chapters naturally together, and the reader tends to get the impression—which is a false one—that Herr Zeeden merely picked out at random interesting remarks from the notable Lutherans between 1500 and 1800 without much regard for the special circumstances which were responsible for the changes in the interpretation of Luther and of Lutheranism. When all is said, however, this remains a valuable study for students of ecclesiastical history and of a church the history of which is not very well known in Anglo-Saxon lands—where Calvinism, for understandable reasons—has received greater attention.

The author's theme is as follows. There were two outstanding principles which ran, often on parallel lines, through the whole of Luther's life. Firstly, there was the assertion of the primacy of private judgement, as against pope and councils, of the Christian man based on Holy Writ. Secondly, there was the conviction of Luther's religious conscience that there was one true all-saving doctrine, namely justification by faith without regard to good works. Luther rejected the body of doctrine built up between 400 and 1500 ; he substituted for it an interpretation of his own. In the first and youthful period between 1512 and 1525, the date of the controversy between himself and Erasmus, on free-will, he laid almost exclusive stress upon the freedom of the Christian to choose his own interpretation of Holy Writ, upon the universal priesthood of man and therefore on the right of the individual to resist the organization and the discipline of the Church. In the second period, from 1525 to 1546, he set about establishing a church based upon his doctrine, and tried to impose on all others, whether they were Catholic, Calvinist, Socinians or Anabaptists, a new theology from which he, no more than the Church against which he had revolted, allowed any dissent.

If one looks at Protestantism historically, it was, in Luther's version, inherently of two kinds. There was on the one hand the rejection of Church authority in favour of personal experience, based historically on Luther's rejection of the old Church in the name of his conscience. Then there was the whole-hearted acceptance of the content of 'biblical' doctrine, the 'pure doctrine' proclaimed by Luther. In subsequent times, two main parties, both of whom were to conflict very much with each other, derived their authority for their versions of Protestantism from the two Luthers. The second type of Protestantism was that of the Lutheran Christians particularly in the seventeenth century, which asserted the complete identification of Luther's teaching with the word of God, holding for true, in particular detail and in general, that same creed which Luther had held for true. This was the so-called orthodox school of Protestantism, which today has for its main exponents Karl Barth and Pastor Niemoleller. It was the form which was closely associated with Prussia and the Scandanavian states.

The second form led, after a delay of nearly 150 years, into pietism, christian rationalism and finally into the enlightenment. The rejection of ecclesiastical authority in favour of individual judgment and personal experience was declared by many Protestants since the eighteenth century to be the main principle of Lutheran Protestantism. This is a source—at least one of them—of the liberal school.

Whichever principle was dominant at any particular time, the two together running as they do through the history of Protestantism, were uncomfortable bedfellows. Their incompatibility may be traced back to the paradoxes which have so often been pointed out in Luther himself. Despite the inconsistencies, however, something of the personality of Luther has always haunted the minds of the liberal and the Aufklærung school. In many cases, pietism and rationalism could possibly be understood as a sublimation of Luther's protest. They rejected the doctrine, but never escaped from the formidable influence of the man. Or they could be interpreted as a reawakening of certain inherent personal characteristics of Luther in man's condition by a very different environment and very much more removed from the universal Christendom of the middle ages ; for example, as a protest of the evangelical individual against any form of guardianship by the evangelical church, in fact, as the turning of Luther's rejection of Catholicism against the very Lutheran Church which arose out of it.

It is a further thesis of the author that the contrast which developed between these two kinds of Protestantism was, in the long run, so great that the difference between doctrinal Protestantism and doctrinal Catholicism paled in comparison, and that the partial, but none the less real, agreement in the light of all that separates the Protestantism of private experience from that of 'orthodox' dogma can only be termed fundamental.

The author makes some surprising discoveries for those who are not well acquainted with the period between 1680 and 1715, which Paul Hazard in his *la Crise de la conscience Européene* found so significant for the development of secularization in Catholic countries. Writers such as Spener, Seckendorf and

Arnold attempted to introduce a historical, as opposed to a theological, analysis of the Lutheran doctrine. In so doing they anticipated the division which the nineteenth century historians were to make between Luther, the man and Lutheranism, as well as between the early and the later Luther. They were far better historians than were their predecessors ; the conclusions of their theology were worse, even if they developed Luther's own first principles more coherently and more logically than he dared to do. The advance of historical study undoubtedly contributed in Protestant lands to a decline of Christianity. This was not necessarily so ; it occurred nevertheless, since behind the improved historical techniques of writers from Seckendorf in 1692 to Lesssing and Herder in the last quarter of the eighteenth century scepticism was growing apace. They looked at Luther, and found he was not the saint which early hagiography had made him out to be ; after judging the man by rational standards, they began to assess his doctrine by a similar yardstick, and found no reason to accept a Lutheran dogma or hierarchy any more than he, on the same principles, could accept Catholic dogma and hierarchy. A Protestant is faced with the tragic dilemma that on his principle, they were right ; and that they could only be rejected if one rejects the principles of Luther and of orthodox Lutheranism. As historians and as theologians working one certain pre-suppositions, they were more logical than he and his followers were—who held on the whole by the fundamental Christian tradition. More history and better logic therefore tended, as they often accidentally still do tend to sap the Christian tradition in regions which broke away from the Catholic doctrine on faith and good works in the sixteenth century. And that is why, however deep the sympathy Catholics should feel for orthodox Lutheranism, they cannot but feel that the latter are fighting a losing battle. It is also perhaps the reason why, of recent years, numerous German Lutherans, especially the believing pastors, have found the way back over Luther to the Council of Trent which he so energetically endeavoured to frustrate.

The most interesting chapters in the book concern the anomalous position of Leibniz, where on the whole the author gives the right answer, but where the reader also requires more evidence than he is permitted to get in the English work ; the heroic and stoically materialist atheism of Frederick the Great which is not lacking in attraction ; and finally the all-influential manner in which the ' liberal ' Protestant Herder converted Luther into an apostle of German nationalism and of modern rationalism. In a sense, Herder is the starting-point of a process which by many twists and turns, led to the contemporary alliance of religious experience with the political gospel of pan-Germanism. Luther as a person has always evoked deep response in the German people, and struck chords in the hearts even of Catholics, as the case of Ignatius Dollinger so distressingly disclosed.

One can learn many things from this book, which are of value for those interested in the present. It also provides much material for an understanding of the past and Messrs. Hollis and Carter are to be congratulated on having the perspicacity to publish an English version.

T. DESMOND WILLIAMS

THE OXFORD HISTORY OF ENGLAND: THE THIRTEENTH CENTURY. By Sir Maurice Powicke. Oxford: Clarendon Press, 1953. 30s.

Sir Maurice Powicke continues to give an example of industry and thoughtful scholarship which puts the work of many younger scholars to shame. Twenty years have gone by since the first volumes of the *Oxford History of England* were published, and three of the fourteen volumes originally announced have yet to appear. More than one of the scholars whose names appeared on the original prospectus have withdrawn from the scheme; a sign that the long interval imposed by the war years has had its inevitable consequence in the shift towards new interests and the acceptance of new responsibilities. In 1947 Sir Maurice Powicke published two large volumes on *King Henry III and the Lord Edward*, in which he set himself to tell the full story of those central years in the thirteenth century which are so memorable in the history of English constitutional development. Six years later he has given us his contribution, on the same period, to the *Oxford History*: covering the two reigns of Henry III and Edward I in a single volume. Compared with other volumes in the series, it is quite obviously less easy to consult—for Sir Maurice has always written history mainly in the form of narrative biography. That is, of course, deliberate choice, not accident; for he thinks of history as the study of human life and human thought rather than as the specialised study of a single institution. For him, as he wrote in 1947, the best way of approaching the history of any period is the way 'in which Maitland always approached it, from the heart of the subject, by what people thought and said and felt, and without preconceptions'. The advantage of taking Powicke, like Maitland, as your guide on this journey is that both men have spent their lives in the study of human thought, as it influenced human action, in the great centuries of English history before the Tudor period. Patience is needed, for the story is long and complicated; but it is at all times full of human interest, and Sir Maurice is at his best when he digresses for a few pages from his narrative to state briefly the results which he believes have been attained by his own study, and the study of other scholars, on this or that well-known problem of social or constitutional history.

The central theme of this book is inevitably the theme which gave its unity to the two long volumes on the reign of Henry III: the king's place in the government of his kingdom, and his relations with the church and the barons who form 'the community of the realm'. Magna Carta is his starting-point, as it was also the close of Dr Austin Lane Poole's volume *From Domesday Book to Magna Carta*, which appeared in this same series in 1951. But the transition from the troubled state of the kingdom at the time of John's death and the succession of his young son to the years of Henry III's full maturity, with all the king's hesitations of policy and the growing discontent of his barons, who find their great leader in Simon de Montfort, is at best a gradual process which does not lend itself to easy sub-division, chapter by chapter, if the story is to remain a study of thought and action as between man and man. From this point of view it is most instructive to compare the two volumes. Dr Lane

Poole's volume is shorter by more than two hundred pages, though it covers a longer period ; and its chapters invite quick consultation. But those who had waited so long for this study of Anglo-Norman history in the twelfth century were too often disappointed to find that the author seemed to be little aware of European thought in an age which was perhaps the most vital in all medieval history. His book was planned as one volume in a series, and was written strictly according to the plan of that series. But there was little or nothing of that sense of an approach to the history of England under William the Conqueror or Henry I or Henry II ' from the heart of the subject '. Here Sir Maurice Powicke's volume gains immensely in depth, for we are conscious all the time that men are thinking as well as acting ; and our author has a rare insight into the thought of these men, be they kings or prelates or barons, as it is revealed in the surviving literature and in the laws of England.

One other point needs to be made in comparing these two recent additions to the *Oxford History of England*. In the thirteenth, as in the twelfth century, England's history is largely merged in the general history of feudal France ; it is impossible to isolate English thought or English legal concepts from the thought and the law of feudal Europe. But there is another aspect of English history in these two centuries. Scotland and Wales and Ireland now enter fully into the story of English national policy ; and here also Sir Maurice Powicke has the wider range and the truer insight of vision. Welsh history in particular is vital to his subject, for Edward I is the great conqueror of Wales, whose son was first hailed as Prince of Wales. Those who will turn to the chapter in which Sir Maurice sets himself to tell the story of these Welsh wars will find that he has been careful to study, for his own satisfaction, the nature of Welsh society in the thirteenth century and to present a sympathetic interpretation of Welsh law. He cites as those whose writings have helped him most Professors J. E. Lloyd, J. G. Edwards and Conway Davies ; but he has also been in correspondence with Professor T. Jones Pierce, whose notes have plainly helped him to write a vivid and most attractive account of Welsh society. The same care to make himself familiar with recent work on Scottish and Irish history is plain in the chapter which he devotes to English policy in these two countries : what he has written contrasts strongly with the parallel chapter by Dr Lane Poole, who sems to have read nothing published by any Irish scholar in the past thirty years. Wide though the field of his survey must be, Sir Maurice Powicke none the less succeeds in making us feel the essential unity of English history in this great century of constitutional growth and struggle. The misconceptions that so many writers have inherited from the dominant Whig tradition of English Victorian historians are here quietly set aside, and we feel ourselves in consequence nearer in thought and sympathy to the men whose actions in conflict are studied so carefully and so lovingly in this fine volume.

AUBREY GWYNN

HOW RUSSIA IS RULED. By Merle Fainsod. Cambridge, Mass. : Harvard University Press. Oxford University Press. 1954. 48s.

Mr Fainsod's volume is part of a series organized by the Russian Research Centre of Studies, with the assistance of the Carnegie Corporation. The major objective of the Research Centre is stated to be the study of Russian institutions and behaviour ' in an effort to make for better understanding of international actions and policy of the Soviet Union '. Mr Fainsod describes in his preface the aim of the book, namely to analyse the physiology, as well as the anatomy of Soviet totalitarianism and ' to communicate a sense of the living, political processes in which Soviet rulers and subjects are enmeshed '. It is unfortunate—as the emotive terms above indicate—that he should have felt, from time to time, the necessity of keeping his eye on a very sensitive American public. All rulers and subjects are normally ' enmeshed in living political processes," and a phrase such as the one used above is not really very helpful. It tends in fact to derogate from the objectivity which the student of politics would require. This habit, now widespread in America—it did not begin with Senator McCarthy—is all the more regrettable because the major part of this extensive tome, extending to over 550 pages, had been written without obvious prejudice and with general regard to the sovereignty of establishable facts.

The book is divided into four parts :—(1) the pursuit of power, which deals with the pre-history of the Bolshevik revolution, the path which the party travelled over in its search for power, and subsequently the dynamic development of power under the all-Russian Communist Party's aegis ; (2) the role of the party, which describes the activities of the party and its subsidiary organizations ; (3) the instruments of rule, a chapter which is concerned with constitutional myths and political realities, the relation between the bureaucracy and the party, the conduct of public administration, and the role played by the party in uneasy alliance with the armed forces in its use of terror as a system of power ; and (4) controls and tensions, in which the author undertakes to analyse the difficulties which constantly arise in Soviet factory and agricultural life. Finally we have a concluding note on the political cohesiveness of the Soviet system.

One danger for students of contemporary history is that its guess-work may easily prove to be wrong. The book had been completed before the death of Stalin, and a few further passages were introduced to describe the evolution of events between 3rd March and Ist May, 1953. This necessitated some judgement on the personal tensions existing in the higher ranks of the Russian Communist Party, and the author was unable to conceive the particular form which those tensions were shortly to take as a result of the conflict between Malenkov, the man of the party, and Beria, the head of the secret police. This was, of course, unavoidable, and Mr Fainsod cannot be criticized for any lack of foresight from which the Intelligence Services and the diplomatists of the Powers themselves also suffered. And this remark is made only with a view to suggesting that it would have been wiser for Fainsod to have restricted his brief to an analysis of the more impersonal forces which keep Russian society together. It is noticeable, for example, that the weakest passages in the book are those concerned with personality, and that the author is on safer and

more familiar ground in discussing the abstract policy of the party, as defined in public documents and as checked by subsequently-known facts. The best part is that which deals with the constitutional system, and the discrepancy between the myth and the reality. In addition part four, which is concerned with the organization of industrial and agricultural life, throws much light upon the day-to-day procedure in the battle for production, which in a sense represents the most remarkable and impressive achievement of the revolution.

It is this aspect which has been responsible for the widespread appeal of Soviet Communism to non-Russian scientists, despite the ideological aberration provided by the interventions of Stalin and Zdhanov into the spheres of literature, philology and science. One point which is not brought out as well as it might be, is the extent of the freedom of criticism which exists, despite the ubiquitous presence of the agents of the party. Where political ' deviationism ' is not suspected, workers at different levels of the hierarchy are able to express technical criticism more freely perhaps than in a normal capitalist society. The latter of course has the benefit of the verdict provided on efficiency or inefficiency by the more or less free play of the market economy. If the Soviet system were unable to supply some channel through which criticism could be made and changes advocated, it would never have been able to achieve the undoubted successes which western critics, under the pressure of obvious events, are now willing to concede.

The author's conclusions in this connection are that the vista held before the eyes of the Soviet worker is hardly calculated to enlist enthusiastic and whole-hearted devotion to the regime. Nor does it produce organized mass protest. The dominant attitude of ordinary labourers is one of resigned apathy, and they bear what they must because there seems to be no alternative. This is probably a correct assessment about a large number of the workers, but Fainsod seems only to consider the negative aspect of the story. There is little doubt that in recent months, the much-proclaimed conversion from capital to consumer goods, announced by Malenkov and Kruschev was inspired by the desire to give Stalin's successors deeper roots in the affections of the Soviet citizen than were likely to be provided by the continuation under new men, of the old methods associated with the successful dictator. If we rightly dislike a regime, we tend often to seek reasons which are really not necessary, and in the repudiation of wrong doctrines, to under-estimate the strength of the adversary. It is in this direction that Fainsod seems to err. He has revealed a great deal, in very compact fashion, about the ' form of the system '. He never really gets down to examining its results as expressed in terms of increases of real production. And here again the intelligence services, the journalists and the diplomatists have preceded Fainsod in this under-rating of a formidable and objectionable state.

There are two omissions which strike a reader. Fainsod has little to say about higher education ; and although his bibliography and original sources are extensive, he does not appear to have utilized current Russian academic and scientific journals which might have enabled him to come to more positive conclusions about an educational system which, after all, must play a decisive part in the processes of maintaining and extending power.

A second omission is the scant interest displayed in external affairs. This is certainly more defensible, as Fainsod, by definition, is concerned with internal administration. Policy is never formed *in vacuo* and if the primacy given by Ranke to foreign affairs was exaggerated, there is much to be said for the view that changes in the foreign relations of a country inevitably exercise deep influence on its internal administration.

There is one noticeable lacuna in original source material. The most informed journal in the English-speaking world is *Soviet Studies,* a quarterly journal published in Glasgow and devoted to the analysis of current Soviet writing. Apart from analysis of such literature, it frequently includes the full original text of articles appearing in Russian technical and political journals. It is not very evident that Fainsod has used directly many of the articles quoted in *Soviet Studies.*

In view of the immense labour obviously put into *How Russia is ruled,* the reader may find some of these criticisms ungracious. A great deal of useful information is compressed into one volume, and the scope is wide. As is the case with modern American productions, its style is greatly influenced by what some may regard as the pseudo-scientific bias of certain schools of modern sociology. The use of phrases such as ' controls and tensions,' ' plan fulfilment,' etc. may indeed impress ; their use tends however to make one forget the imponderable elements of personality and contingency which affect the Soviet System as much as all others. If Fainsod fails, however, in this respect, his success in others, make this a work of serious consideration.

T. Desmond Williams

FRENCH CLASSICAL ART

ANTHONY BLUNT: ART AND ARCHITECTURE IN FRANCE, 1500 TO 1700. Penguin Books. 42s.

The period 1500 to 1700 covers the rise and decline of French Classical art, and thus gives a unity to the volume of *The Pelican History of Art* under review. The handling of the subject by Professor Blunt makes this a book of absorbing interest. Without imposing a pattern on the evidence, he has allowed the main lines of the story to stand out clearly. Briefly they are as follows.

At the time when Italian Renaissance art was introduced into France, French art was under the influence of Flamboyant Gothic. It was therefore the richness of classical decoration that appealed to French artists and their patrons. Classical motives were applied to the facades and interiors of buildings which, with their high-pitched roofs, tall, narrow windows, irregular structure and emphasis on verticals, were not suited to receive them. The work was sometimes tastefully done, as at Azay-le-Rideau (Pl 6), but more often the effect was grotesque ; and it was never happy, because there was never a fusion between the classical style and French methods of building.

The love of classical embellishment persisted throughout the 15th and 16th centuries, and finally triumphed. But there was present from the beginning a tendency to look beyond the clichés of classical decoration to the essential qualities of classical art. It operated in two directions : unclassical elements in French art were modified, and classical motives became simpler and more closely related to the underlying pattern and structure. The result was a

classicism of great purity which reached its perfection in the art of Francois Mansart and Nicholas Poussin, towards the middle of the 17th century. The finest work of these artists—for example, the side pavilion of the Hotel Carnavalet (Pl 100b), the interior of the Château of Maisons (Pl 98, 100 a),Poussin's 'The Holy Family on the Steps' (Pl 132) and 'The Ashes of Phocion' (Pl 133) —has about it the monumental harmony and repose of Doric art. The source is the same : a feeling for mass and a clear imaginative grasp of perfect geometrical proportions.

Towards the close of the 17th century French Classicism declined. Theorists and rationalizers like Lebrun had reduced it to rule and measurement : mathematics took the place of imagination. But other influences that had long been present were also at work. Indeed, it is in some ways a mystery that pure classical art ever developed in France. Everything was against it. Outside France movements unfavourable to classicism, the so-called Mannerist movement first, and then the Baroque, were in possession. But something in the French temper (had the classical education imparted by the Jesuits anything to do with it ?) inclined with a sort of inevitability towards classicism. It is quite remarkable how an artist who might begin his career under a Flemish or Mannerist influence tended gradually to refine his work towards classical purity. The most striking example is La Tour. His earlier works are in the naturalistic style of Caravaggio but in his later pictures, the Rennes 'Nativity' (Pl 122a) for instance, to quote Professor Blunt, he 'reduces individual forms to almost geometrical terms, and relates them to each other in compositions of equally mathematical clarity.' Even at the end of the century, when the Baroque style was predominant, it was a Baroque tempered with classicism, and in comparison with work of the kind outside France, severely classical.

So much for the subject of the book. In its treatment the author has had to exercise very careful selection. Whereas the authors of Michel's history had 500 pages at their disposal, he has less than 300. Much interesting matter, especially towards the end of the book, had to be reduced to mere summary, but when he gives himself some latitude as in the biographies of Mansart and Poussin, the result is wholly satisfying. And what an amazing amount of information he manages to include in his alloted space ! We are always conscious of the changing political and social scene, of the shifting of patrōnage, of the fluctuations and persistency of taste, and the currents of religious, scientific and literary thought. Speaking of Poussin, he writes, 'his conception of space composition is based on the same mathematically rational principles which governed Descartes' view of the material world.' And again, 'the Baroque still qualified by a classical tradition, was exactly in tune with the needs of a society whose religion was that of St Francis de Sales, of Bérulle, and of Olier.'

Until more volumes of this History have appeared, it will be impossible to judge whether the space assigned to this period of French art reflects its importance in the history of art. Even from the point of view of the English reader, one is inclined to doubt it. This much however, is certain : we have in the present volume a survey of the arts in France in the 16th and 17th centuries that will not easily be surpassed.

D. C. Barrett

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